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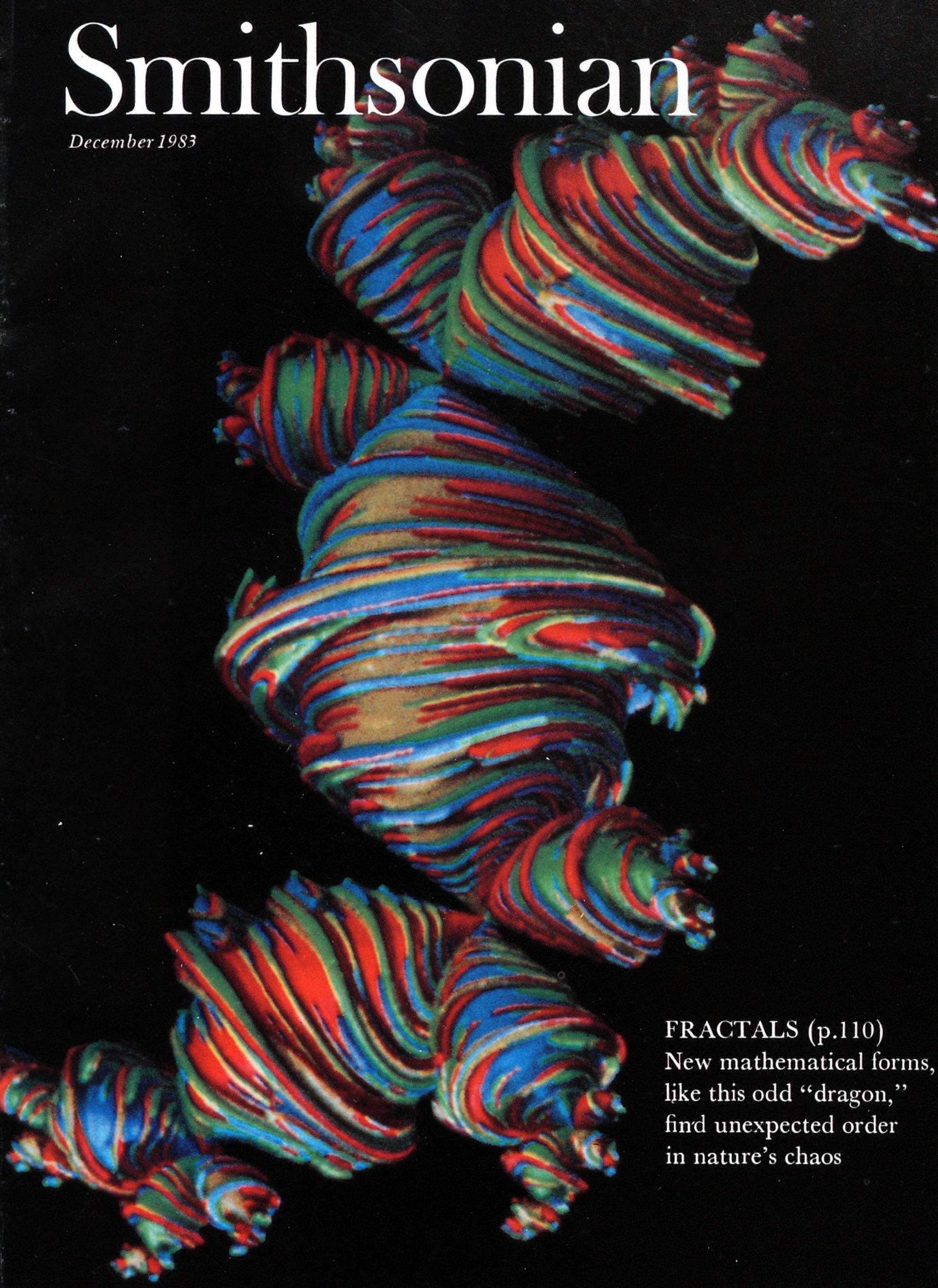

FRACTALS (p.110)
New mathematical forms, like this odd "dragon," find unexpected order in nature's chaos

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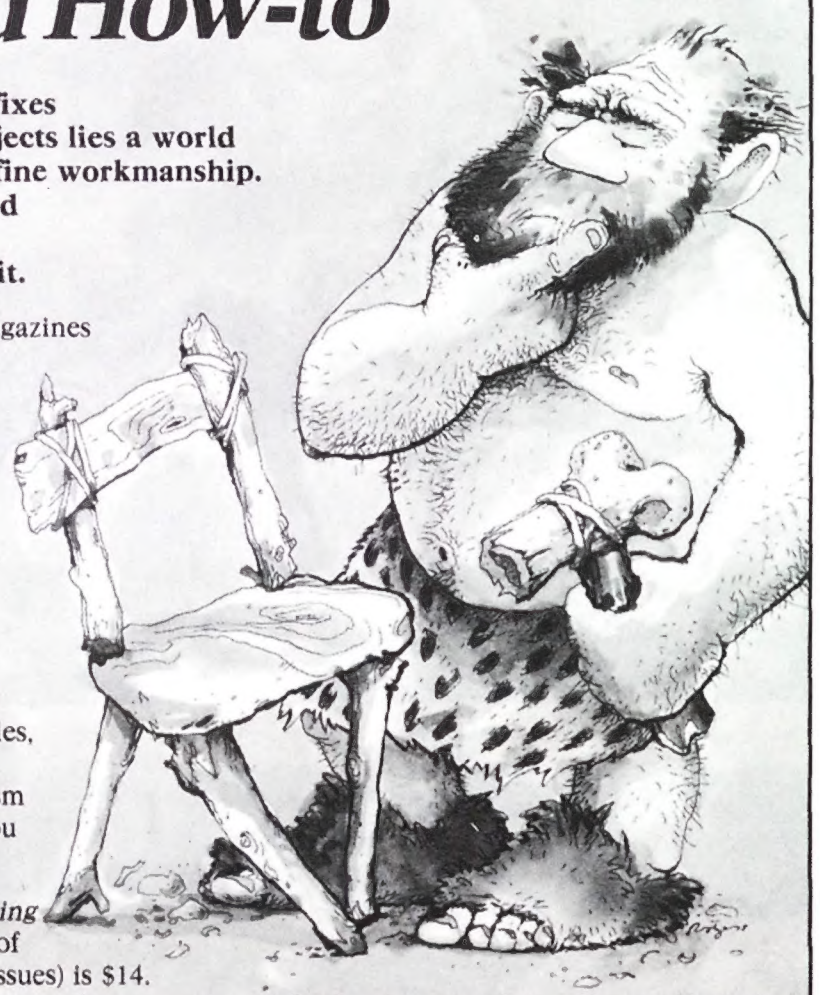

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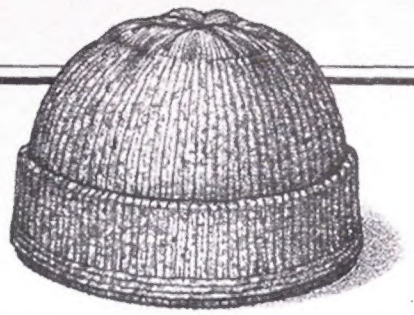

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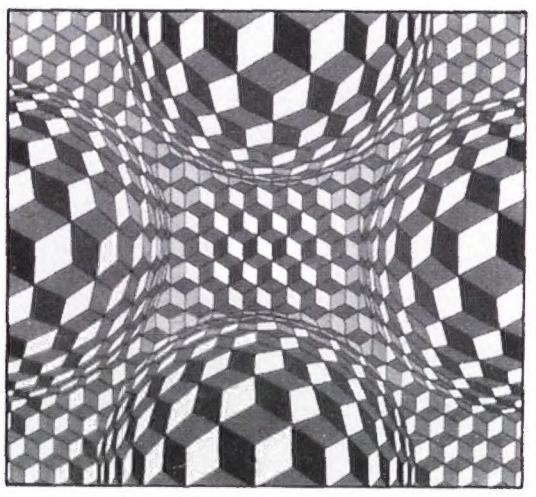

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The view from the castle

The Bombay Natural History Society is celebrating its centenary, thanks in part to the efforts of Dr. Sálim Ali

I first met Dr. Sálim Ali in 1943 in Bombay—a diminutive figure, slim almost to the point of emaciation, clean-shaven at first but now with a trim, pointed beard. The meeting was an electrifying one, for—above all—Sálim possesses ineffable charm and also a penetrating concentration on the life of birds. For many years he had studied weaverbirds, watching them as they wove their nests in the summer and discovering the secrets of their life. He found that the male does virtually all the work of nest building; having attracted a female to lay eggs and take over the nest, he proceeds to go off to another tree nearby and makes a second nest, sometimes continuing this process of construction and mating until he has a veritable harem!

None of this information had been known before, and it symbolizes the patience, care and dedication of this extraordinary citizen of India. In the years since World War II, Sálim and I, along with my wife, have made many expeditions into the field in parts of India and Bhutan. Beginning in 1968, we were co-authors of the ten-volume *Handbook of the Birds of India and Pakistan*, now being revised. Always he has been the soul of wit and a delightful companion. I consider him my best friend in Asia.

But perhaps his greatest triumph has been as president of the Bombay Natural History Society, which this year is celebrating its centenary. Asia has had its share of such societies, often founded by resident Westerners. Wars and revolutions have decimated many of these educational efforts, with their collections and curation of indigenous flora and fauna. The one notable exception is Bombay. It might have ended with the recognition of the independence of India in 1947, when the financial support of British members waned. In its favor, however, was the fact that the majority of Indians are of the Hindu religion, sharing with Buddhists a respect and reverence for life and the natural environment.

The volumes of the *Journal* of the Bombay Society are a fascinating record, from the early days of anecdotal natural history—such as feats of derring-do in tracking man-eating tigers and leopards or deflating legends of monstrous snakes and crocodiles—through the stages of documenting "what species are where and why" to, at last, serious field studies and biologically valid papers.

Since the 1930s Dr. Sálim Ali has inspired and invigorated the pursuit of natural history in India. He has helped to interest the highest levels of government, from Prime Minister Nehru, who rescued the Society with a grant, to Prime Minister Gandhi, who presided at the opening session of the Society's centenary observances last September.

Now, in December 1983, the Society is holding an international seminar on conservation in the developing countries. Thus it closes the circle on a hundred years of education, by accepting the challenge of speaking out and persuading citizens that conservation is essential if we are to preserve living space in a shrinking and desiccated natural environment. At 87—a spry 87—Dr. Sálim Ali leads a society that accepts this ultimate responsibility.

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Letters to the Editor

Skyscrapers

Dear Sir: I was surprised to find no mention in your October article of the Renaissance II project under way in Pittsburgh. There are three new skyscrapers, architecturally interesting and visually pleasing. One look at One Oxford Centre or Mellon Towers delights the eye and proves that the Age of the Box in architecture is, thankfully, gone.

But my vote for the most exciting building must go to PPG Place (below). This complex encompasses a medieval reflecting tower and about a block's worth of smaller structures, all covered in glass and sporting fanciful turrets and spires. The lobby has public exhibitions.

Diane L. E. Slovinsky
Pittsburgh

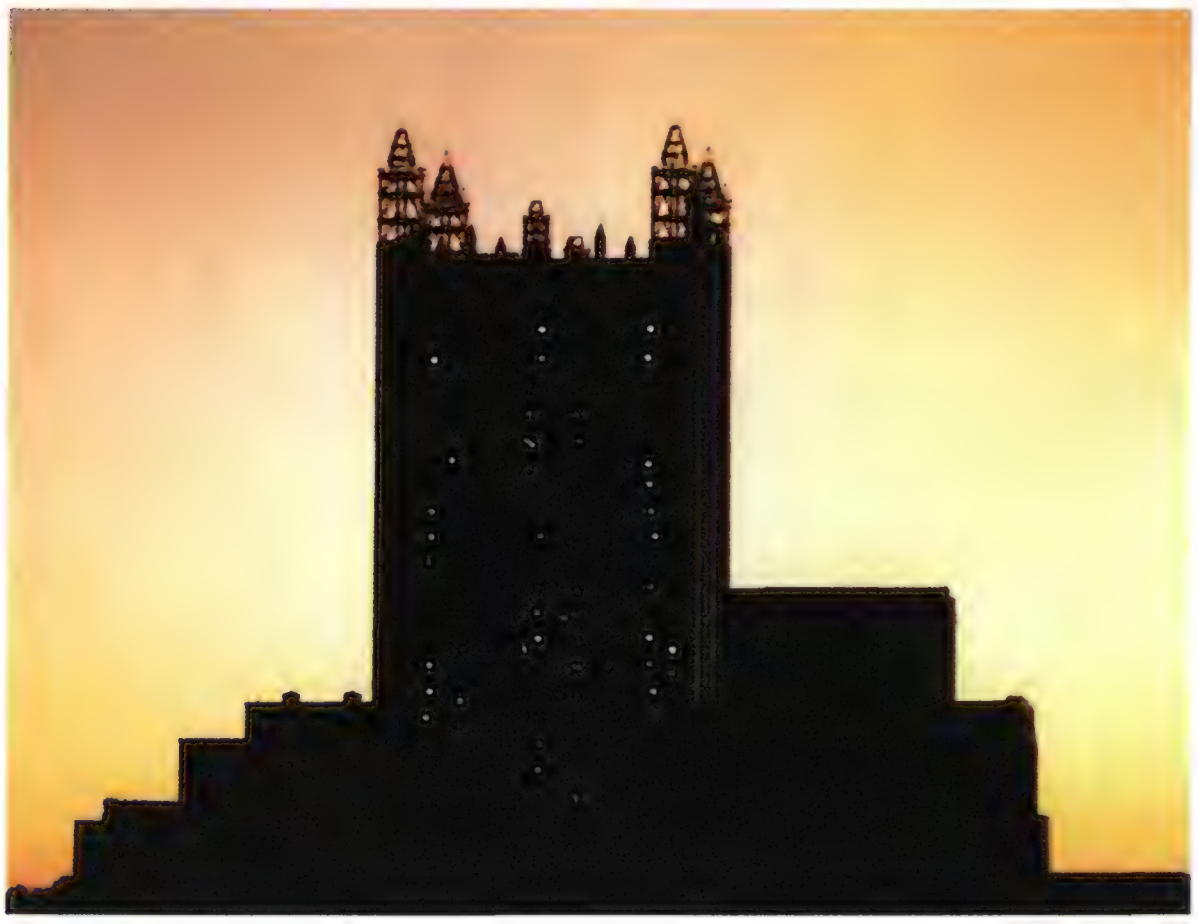
Shipwrecks and treasure hunters

Dear Sir: Treasure hunters cry "free enterprise" as if they held a monopoly on it. The Institute of Nautical Archaeology is financed mostly by business people who invest in the search for knowledge and demand results—results obtained by the two years our staff spends on conservation and publication for every month of misleading photogenic diving.

George F. Bass, Archaeological Director
Institute of Nautical Archaeology
College Station, Texas

Dear Sir: As a marine archaeologist working with Treasure Salvors and similar firms, I have considerable experience both with salvage operations and with professional underwater archaeologists.

I have found that the "archaeocrats" continually skirt the real question of whether valid archaeological techniques and methods are being imposed and instead choose to argue over the profit motive. This small group is willing to sacrifice a wealth of information while fighting an expensive legal battle that has been a losing cause and will continue to



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be as long as current legislation exists. Archaeocrats have repeatedly tried to enact legislation that has proved to be sloppily written, nowhere near a solution.

Many archaeologists believe that because recovered artifacts are sold they cannot be studied. I in no way agree with the sale of artifacts, but at present there is no way to prevent it. However, Duncan Mathewson has proved for a decade that cooperating with salvors instead of fighting them can save volumes of information that would more than likely be lost otherwise.

No one can deny that Dr. George Bass' finds have helped fill in major gaps about the history of shipbuilding and commerce in the Middle East and elsewhere. But I challenge anyone to match the historical research that Dr. Eugene Lyon has done on Spanish shipwrecks or the information compiled and developed by Bill Muir in the area of galleon construction and architecture—all a direct result of salvage work done on the *Atocha* and *Santa Margarita*, financed by Mel Fisher through private investment.

One thing should be clarified. The *San Jose* was being excavated and recovered by Treasure Salvors to be preserved and put on display—when the state ordered operations halted. The wreck, while not destroyed as your article states, was substantially altered by another salvage operation under the direct supervision of the State of Florida.
David D. Moore
Key West

Dear Sir: The overwhelming majority of historical shipwrecks do not contain gold, jewelry or other such treasures. Yet treasure hunters have ruined countless wrecks, in the process destroying forever our ability to piece together the past through careful scientific techniques.

After having been protected for centuries by their underwater environment, artifacts must be handled carefully. Wood and iron, for example, must be placed in treatment vats for the rigorous and time-consuming procedure of leaching the salt accumulations and replacing them with preservatives. Treasure hunters, interested primarily in immediate sale, find these procedures "cost-inefficient."

Historical shipwrecks are an irreplaceable part of every citizen's cultural patrimony. And so more than 20 national archaeological, historic preservation and environmental organizations have joined together to seek the speedy enactment of the Historic Shipwreck Preservation Act.
Philip Speser
Society for American Archaeology
Washington, D.C.

Dear Sir: As a live-aboard, small-boat sailor and history fan, I sympathize to a degree with archaeologists who are appalled at the rape of ancient wrecks. However, do not put Mel Fisher into the same category. I have visited his museum in Key West. Not only are you surrounded by artifacts, you are provided with the history of their ships and passengers, their mission, how they were lost. A gold cup that had been crushed was restored to its original splendor and there is a step-by-step description of the restoration. I spent hours in awe and wonder. I held a gold bar in my hand. I have touched history. No book, no matter how accurate, how detailed, could ever substitute for that.
C. J. Hall
Port Washington, Wisconsin

Dear Sir: Your article states that the *Fowey* struck a reef in 1848. I believe 1748 is the correct date.
Kenneth Howard
Grosse Point, Michigan
Mr. Howard is correct. Ed.

Violins in Cremona

Dear Sir: Maestro Bissolotti, whom I met in 1980, is very fond of his nickname, "Bisol," which in Cremonese dialect describes a giant wine glass. He will say "To make a beautiful vio-line/ You need to drink a little wine!" He lends humor and enthusiasm to his disciples of classical artisanry. It is nice to see recognized his dedication to quality in our trade.
Robert Chambers
Volant, Pennsylvania

Crown jewels

Dear Sir: Britain's Imperial State Crown was made for Queen Victoria's coronation in 1838, not "fashioned for Elizabeth II's 1953 coronation," as your caption states.

Also, Charles X was the last crowned king of France, but Louis-Philippe ruled as King of the French from 1830 to 1848.
Hays R. Browning jr.
Washington, D.C.

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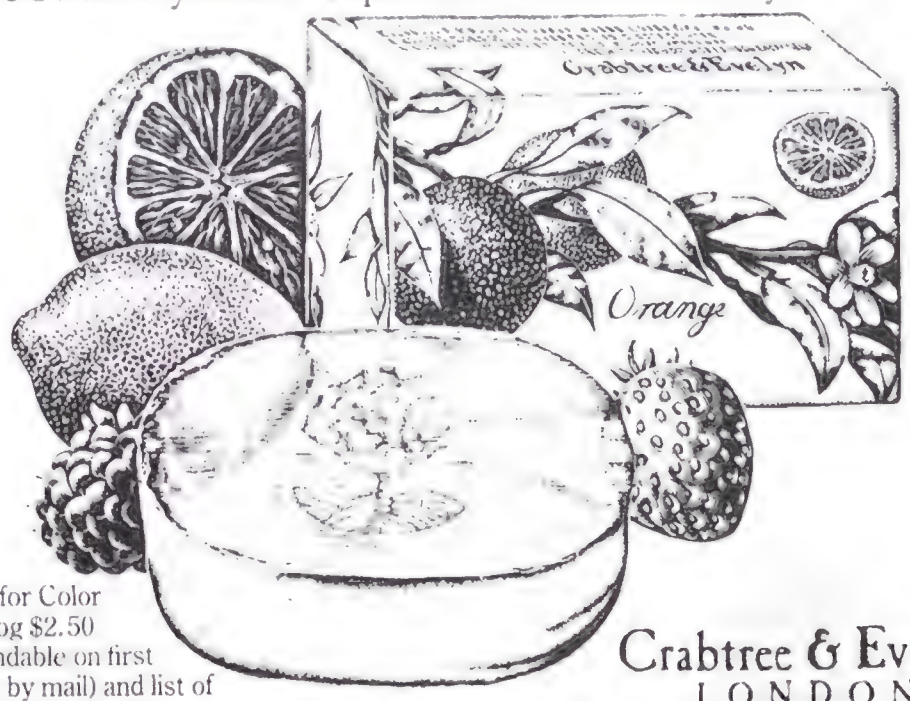

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As Queen Elizabeth II's coronation approached it was found that the frame of Queen Victoria's Imperial Crown was badly worn, and so a new crown of similar design was created. That is the one we pictured. Ed.

Microlaser chip

Dear Sir: I was both fascinated and haunted by the pictured gallium-arsenide laser. It conjured up a vision of mankind bowed and humbled under the weight of that "chip" on its shoulder. Ah, future events casting their shadows. . . .

Mrs. Edward C. Meyers
Lambertville, Michigan

Twinkle, twinkle

Dear Sir: I learned the following version of "Twinkle, twinkle" more than 50 years ago on the prairies of Colorado: *Mica, mica, parva stella/ Miror quaenam sis tam bella/ Splendens eminus in illo/ Alba velut gemma caelo./ Quando fervens sol discessit/ Nec calore prata pascit/ Mox extendis lumen parvum/ Micans, micans per obscurum.*

First real use I've had for it.

Josephine McCrann
Amityville, New York

Book reviews

Dear Sir: In his review of Jack Beeching's *The Galleys at Lepanto,* Robert Finlay speculates that only Venetians and priests of Toledo Cathedral remember Lepanto. Add to that readers of G. K. Chesterton, whose poem, "Lepanto," is, in my humble opinion, one of the great purple patches of English poetry—and tremendous fun to read aloud, too. As a high school student 20 years ago, I used to declaim it to my dresser mirror. I'm surprised neither Beeching nor Finlay mentioned Chesterton's poem, which—for generations of Catholic high school students—has kept the Battle of Lepanto gloriously alive.

Paula Lozar
San Jose, California

Sports statistics

Dear Sir: Computers in baseball are fine—but can they play hunches?

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Margery P. Dews
Edison, Georgia

Matchboxes

Dear Sir: How surprised and pleased I was to turn to your article and see a picture of my grandfather's matchbox, the silver fist with the inscription "In this you'll find a match." It is a souvenir of the Corbett-Fitzsimmons boxing match, fought in Carson City, Nevada, on March 17, 1897—my grandfather's 41st birthday. Corbett was a San Franciscan and the box was in his honor. Unfortunately, he was knocked out in the 11th round.

The matchbox now rests on a shelf in my dining room.
Lou Silberman
Tucson, Arizona

Paean to the manual typewriter

Dear Sir: Putting words on paper with a word processor, a typewriter or a quill pen dipped in oxgall ink has no effect whatsoever on the quality of the writer's work. Any quality or lack thereof comes from the mind or soul of the writer, not from the tools used in writing.
Mel Marshall
Phillips, Texas

Dear Sir: For 26 months of World War II I thwacked a noble upright through Iran's desert sands. Twice daily a blinding sandstorm swept across my indestructible high-rise machine, clogging my eyes and scouring chinks in my instrument. Although thoroughly encrusted, it braced and survived, and was still clacking away when I abandoned it at war's end. I can only assume it continues to rumble, disgorging pages of literacy under some mountain of accumulated sand.
Robert E. Belding
North Liberty, Iowa

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Lisa Yount
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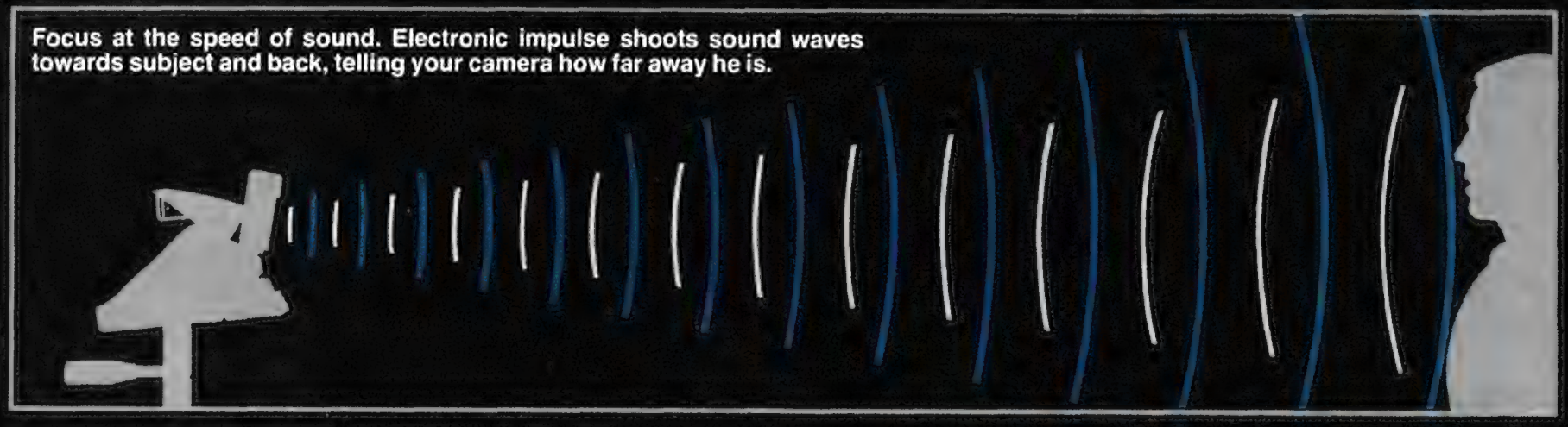
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Around the Mall and beyond

Dr. Irwin Shapiro is the director and "bright new star" of the Harvard-Smithsonian Center for Astrophysics.

Smithsonian-watchers are accustomed to thinking of the Institution in terms of things to be *seen,* like dark-blue diamonds, and portraits of Presidents, and fragile aircraft that once rose from the sand. So the phrase "Harvard-Smithsonian Center for Astrophysics" may stir in them only the thought of the University of Arizona-Smithsonian multiple mirror telescope (MMT) on Mt. Hopkins in Arizona.

The fact is, of course, that the MMT is only a tool for the work of the Center—which is pretty hard to put into lay terms. To make a stab at it, the scientists at Cambridge are studying the evolution of matter from the early infancy of our universe to the formation of planets. They use a number of disciplines with arcane names (did you ever hear of geoastronomy?). And like other Smithsonian bureaus, this one collects and coordinates the data gathered at field stations around the country. As in any research establishment, the great treasures of this Center are intangible: the intellects that glean new knowledge of the cosmos, and where we stand in it.

Intellects function any old place. These of the Smithsonian are "coordinated" on one of those serene residential streets of Cambridge, Massachusetts, that all seem to lead to Harvard Square as though it were Rome. Garden Street is one of this skein of Cambridge thoroughfares, and Number 60, shaded by a small jungle, is the nucleus of the Center. Its original house is gone. Now there's a complex of newer buildings with no Victorian nonsense about them. Not much in the way of signs, either. If you show up here, you're presumed to have brains enough to find your way to your appointment.

I had difficulty, but finally managed to discover the director's office. I was to meet him—Dr. Irwin Shapiro, whom it is tempting to call a bright new Smithsonian star. He is one of the world's leading experts in radar astronomy, a scientist whose ideas have leapt ahead of the standard pace of science; he has been director of the Center only since January 1983. And right now he wasn't to be seen anywhere. I realized that I was early. I glanced around, helplessly, and then a voice said, "Looking for me?"

A youngish man. Slender; trimly built; faded plaid shirt and khaki pants; spectacles; lean face with a nice smile; tantalizingly familiar look about him. Why did the sight of him produce thoughts of late-night movies on television?

The answer came to me suddenly, and I was embarrassed by it because I knew that it made me stare rudely at this rather famous and certainly pleasant-seeming stranger. But the fact was that if I had met him on the street and been the type of person who accosts film stars, I would have produced a notebook and said, "How about an autograph, Mr. Allen?" (Woody, that is.)

He has indeed had that happen, and found it a bit bewildering since he knew little about Woody Allen and isn't the sort of person to think much about appearances, anyway. Behind the owlish spectacles, the self-deprecating smile, the informal manner, is a tough, resourceful intellect which was aimed toward science when he was six and which has recently won him considerable acclaim. As I began talking to him, I realized two things: one, I could never hope to describe accu-

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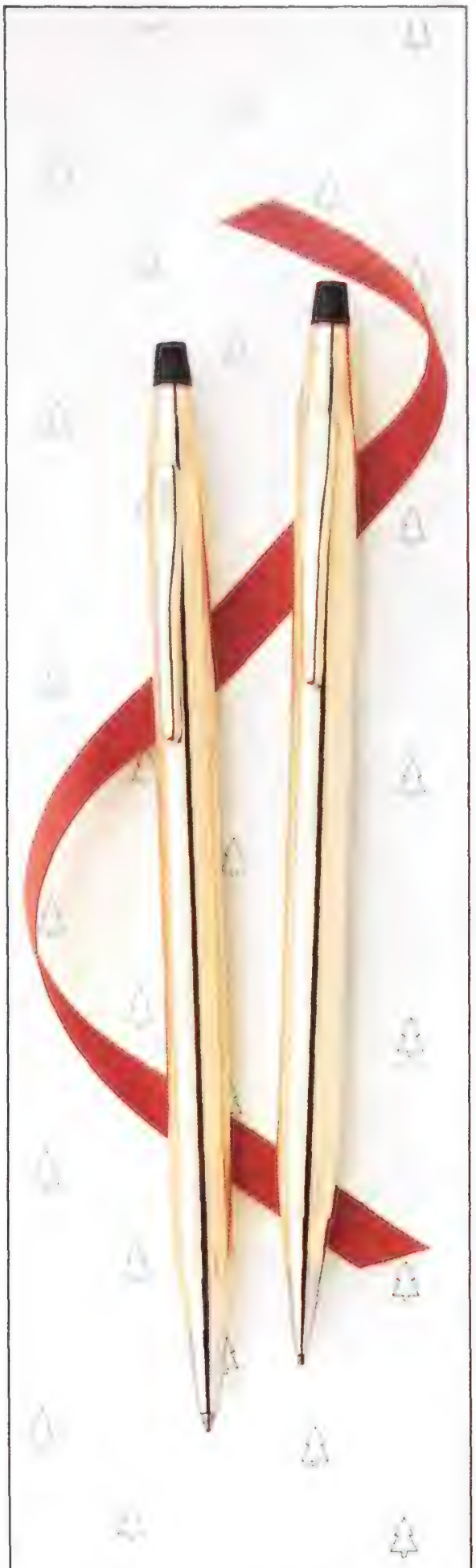

rately in this space the intricacies of his field of interest; and two, I could, perhaps, describe his education and his fascination with the process of teaching.

At age six, Shapiro was the bright only child of relatively "older" parents—his father 51, his mother 46. He was much loved. His mother taught school. His father, brought here from Russia at age two, had been shouldering family support since he was 12. He was a civil engineer and also had taught. And he was a good enough businessman to survive the 1929 crash. Brought up in an atmosphere of achievement, young Irwin felt no pressure on himself, but was, as he says, "internally motivated" to learn. An uncle taught him math. By the time he was in second grade at his Far Rockaway elementary school, he was doing fractions and finding the lowest common denominator.

"I had outgrown school," he says, "but I was terribly ignorant. I didn't know about the library, and the books at home assumed knowledge that I didn't have. So I didn't really grow intellectually until I went to Brooklyn Technical High School."

Leaving Far Rockaway—on Long Island's south shore in New York's borough of Queens—for Brooklyn Tech was wrenchingly difficult in some ways, but highly rewarding in others. Young Shapiro hated leaving the security of his own neighborhood and coping with a difficult commute to a new one. But the school was special in those days. You had to be tested to get in. And this lad, judged an oddball by his Far Rockaway peers, found himself surrounded by kids who were just as interested in science as he was.

But the size! "Suddenly I was one of 6,500 boys," he says. "They marched down the school corridors in armies, and they were all bright." He recalls that he got sick at the end of his first term and was out of school for a while. "And when I got back to class the kids all cheered. That made me feel great—*social* acceptance, too!" He became, in fact, thrice president of his homeroom class.

At 15, Shapiro made a telescope. He followed directions in a library book and doggedly ground and polished a mirror in his attic all summer, though the temperature up there was 98. It was wartime, and there was no metal available, so he made the tube out of wood: "twelve slats —a dodecagon."

Finished at last, and mounted "rather

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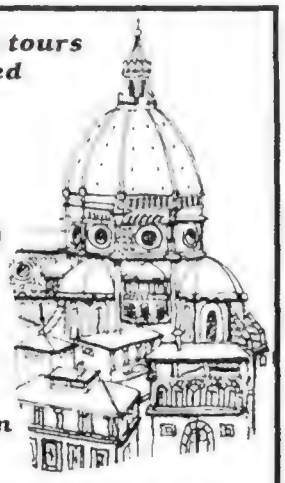

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poorly," the scope inspired momentary interest among his Far Rockaway friends, but was too heavy to lug to the Long Island Railroad for the trip to Brooklyn Tech. An older schoolmate drove it there, and it won $10—first prize in the school science fair—"mostly because the judge didn't know much about astronomy and the thing snowed him." This was Shapiro's first firm venture in astronomy.

Choosing a university was simple for Irwin. What had been missing from Brooklyn Tech was girls. He didn't know any. He never went out with any. And it drove him bonkers. He was bright enough to go where he wanted, but he eliminated MIT and Harvard ("I was too ignorant to know that Radcliffe was right beside Harvard") and chose Cornell—it had girls.

It proved, however, a disappointment when it came to girls. Also, "the astronomy department then consisted of only one man," says Shapiro. "And when he gave a lecture on the moon's orbit he stressed the importance of some 530 [different mathematical] terms in the theory. He was so serious, and it all seemed so silly that I began to laugh. I dug my nails into my palms, bit my lip, and still laughed. I tried to hide, but there were only eight of us there. So I was told to leave and never come back." He agrees that there is irony in the fact that one of the things he is well known for now is his work on the orbits of the moons and planets of the solar system.

Despite astronomy and the impact of real live girls, Irwin graduated from Cornell in three years as a math major. Socially, more of his innocence was eroded by the realization that many classmates came from uphappy homes. It had never occurred to him that his own comfortable familial happiness was the slightest bit unusual. "I never left home at the end of a vacation without crying," he says, unashamedly. "And now, when my son leaves for college, I cry."

Son? Yes, and a daughter, too. Shapiro overcame his early mystification about girls and met that special one at a Brandeis cocktail party about 24 years ago. Did she like football, he asked. "Can't stand it," she said. "Gee, that's too bad," he said, because he had tickets to the Harvard-Cornell game. "Well," she said, "if you explain what's going on. . . ." Seven days later he proposed. Three days after that she accepted. They were married two months later and still are.

After his Harvard doctorate, Shapiro joined the Lincoln Laboratory at MIT and worked with various applications of radar. He did a book about radar determination of ballistic-missile paths, which was republished in Russian. The only way he knew about this was when he met a Russian scientist who complimented him on it. "I've heard that there's a bank in Moscow that has my royalties," he says.

He also worked on a project to launch several hundred million hairlike copper dipoles to form a belt around the Earth which would act as an artificial ionosphere. It would serve to bounce radio signals from one place to another. This new means of communication proved controversial. The idea was decried by astronomers who thought it would louse up their observations, seized upon by the Russians as an imperialistic scheme, and blasted by the British press.

Even I remember a little about the dipoles. The Lincoln Laboratory managed to get them into orbit in 1963 and they proved a success. The radio astronomers, who were afraid of this belt of dipoles,

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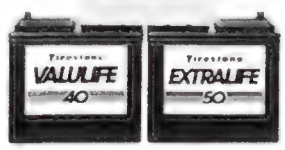

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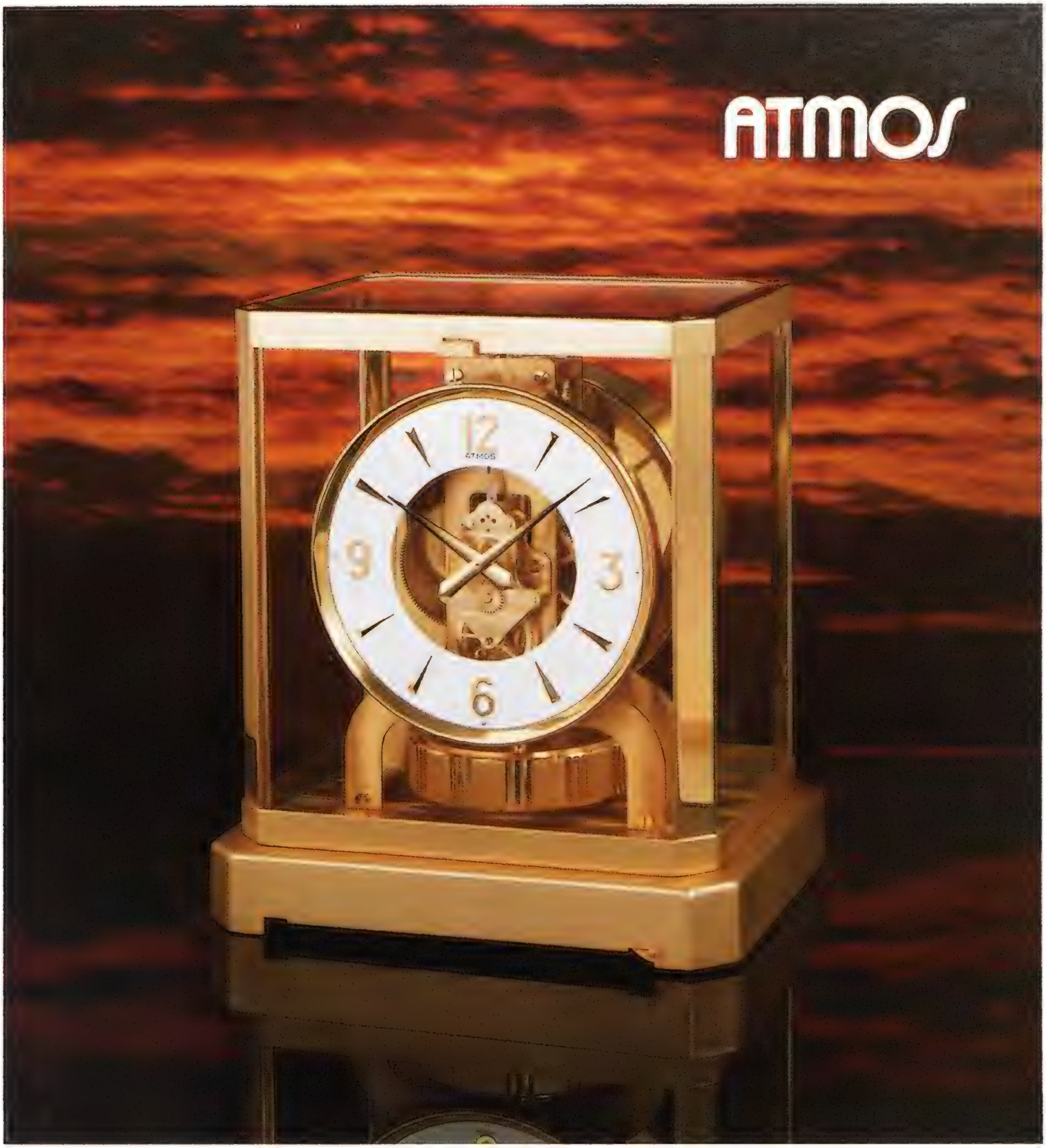

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never found it. Optical astronomers claimed to see it and published their findings. But, says Shapiro, the area where at least one "discovery" was made was not the area where the dipoles orbited.

The dipoles came down when Shapiro predicted, and he wrote up the whole story, ending with the wry comment that while the evil such projects do lives after them, the good is oft interred. . . .

His next notion was to use a "trivial," but original, calculation to check Einstein's theory of general relativity by measuring, with radar, the extra delay of a light signal when it skims past the sun and is reflected back to Earth by a planet as it passes *behind* the sun. No existing radar observatory could handle this, but Shapiro realized that the Haystack Observatory in Massachusetts could be beefed up to do the job. The Air Force came up with the necessary funds, and Haystack was adapted to the task. Shapiro says he was pleased, but depressed that it had taken so long to accomplish—nearly two years. Now, he adds a little bitterly, a recent project has been on the books for *nine* years, and not a dollar has been funded. So goes science.

Shapiro's position as director of CFA, as it's called, puts him in charge of one of the world's largest astrophysical centers with the means to do work that will add decisively to human knowledge. He considers this the highest "payoff," and bears it in mind when overseeing the research being conducted by the scientists (about 150 of them) who work at the Center. "I won't forcibly 'direct,' " he says. "But I will try to nudge people into areas of research that promise this sort of payoff."

There is a practical payoff, too. "Suppose someone wants to build a new instrument. Our job is to look at the idea from every angle: What is its purpose? Can we make it? What science will we get out of it? Finally, can we sell the idea to Congress or someplace that will furnish the necessary funds?"

The Center staff totals about 500, and Shapiro is trying to get to know everyone because he doesn't want to be an aloof director. He still has time for his family, about 15 minutes away in Lexington. They chose the town for its schools.

Education absorbs him. He has taught a good deal and feels that it is a constant challenge to do it well, especially in something as precise and yet demanding as science. He told me he liked to move through the subject as though climbing stairs—making sure that his students are firmly planted on one step before taking the next. "I want to get them thinking clearly, from one position of understanding to another."

As for the humanities, young Irwin had trouble with writing in school and still is uncomfortable about doing reports. He strives for that same clarity, but sometimes cannot find the words to produce it. Yet he had a crush on his Brooklyn Tech English teacher. Sylvia Feldschuh was about ten years older than he, and the only way he could express his devotion was to mark papers for her.

Thirty-one years later, he tracked her down through all the area codes of the New York City environs—"after all, there aren't too many Feldschuhs"—and now she spends every Thanksgiving with the Shapiros in Lexington.

So English is in there, somewhere behind the Woody Allen facade. I personally hope it remains passive. Irwin Shapiro would be a hell of a competitor.

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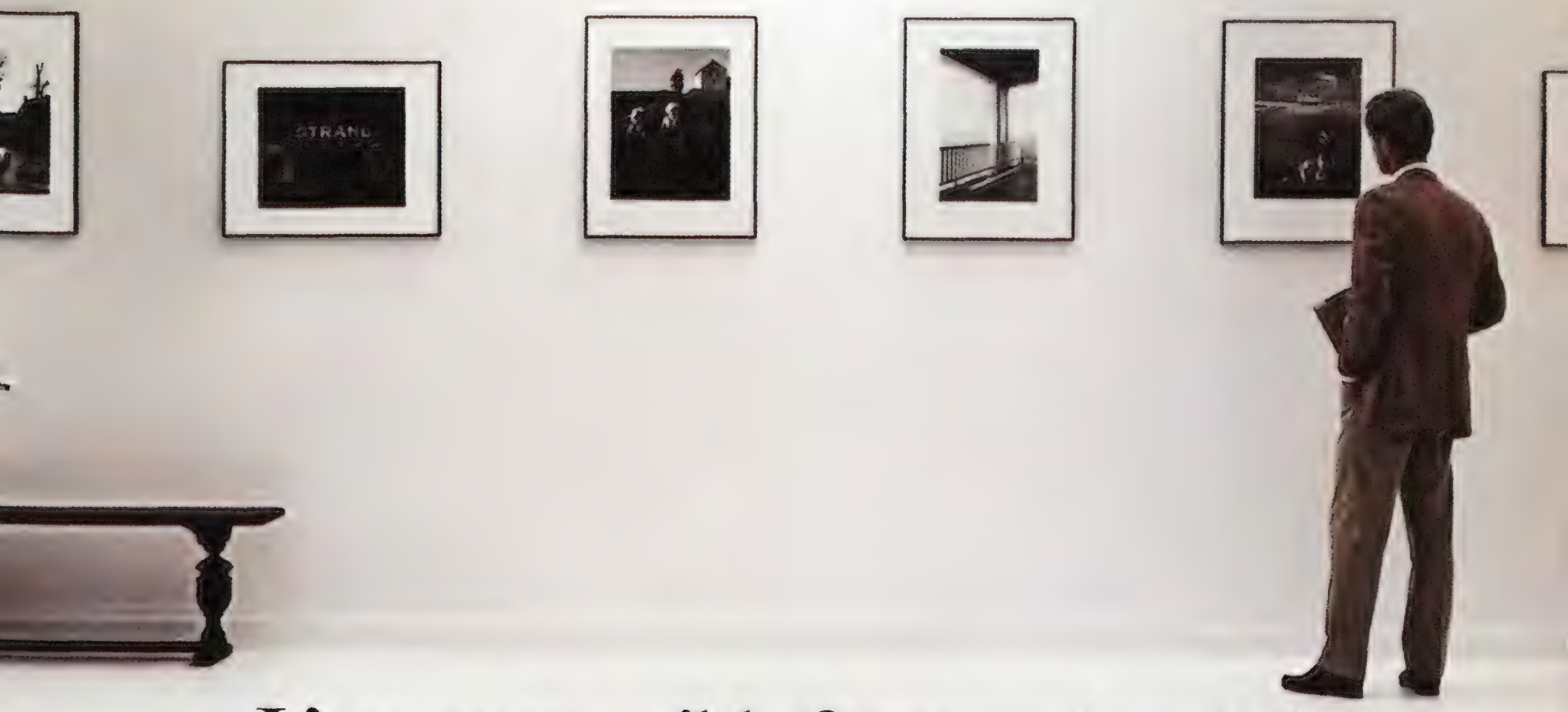

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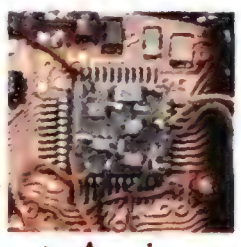

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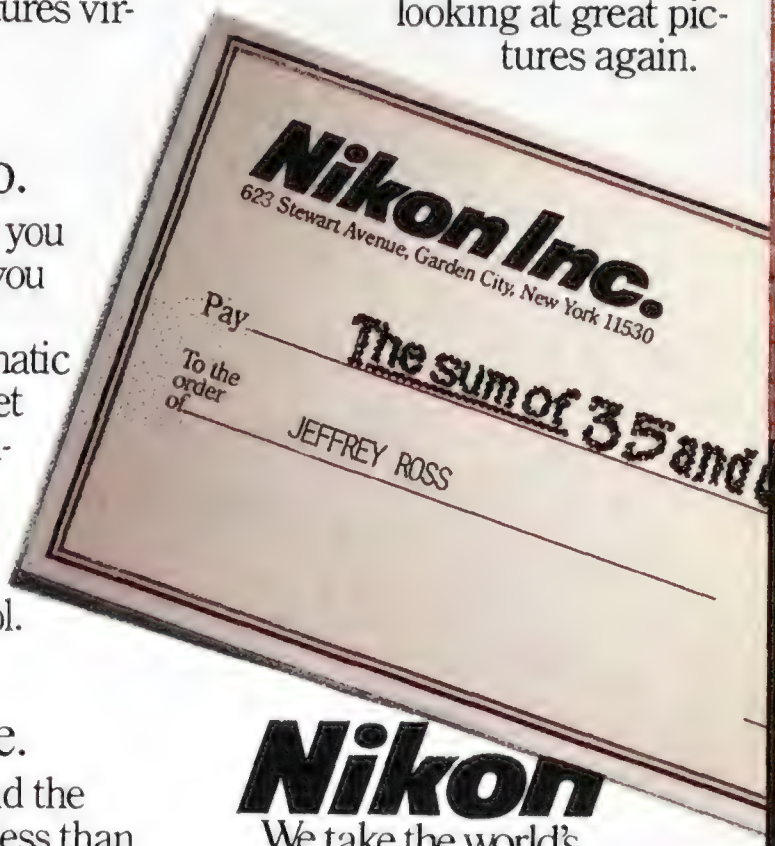

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by L.J. Pearce

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Phenomena, comment and notes

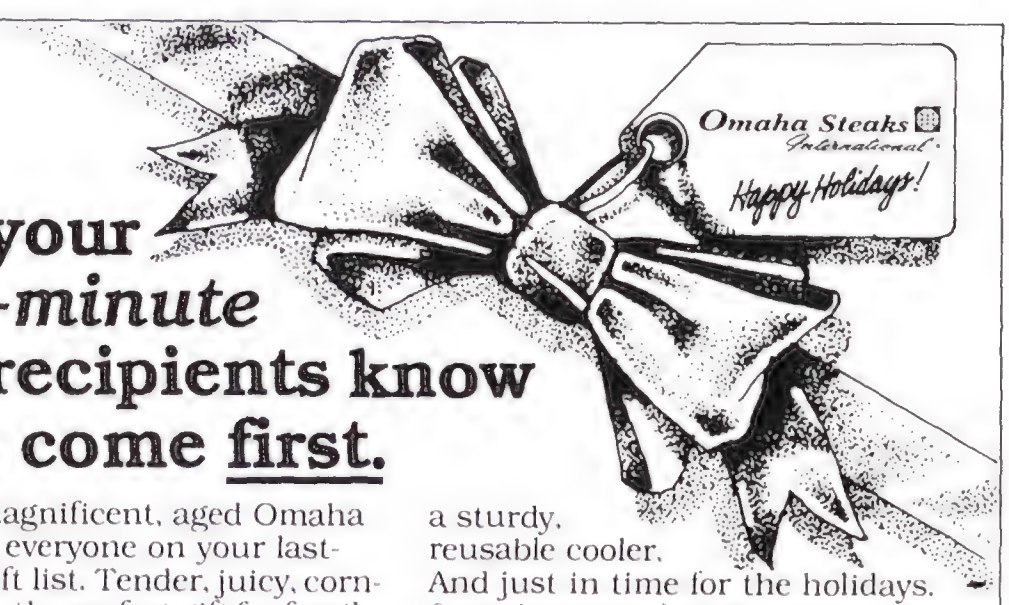
At an "in" resort, a chance meeting on a beach leads to one of those magical hours that last a lifetime

Ninety-six square miles of sand, gravel, boulders and clay deposited in the Atlantic by glaciers have become one of the more popular resorts on the East Coast. The island of Martha's Vineyard is now an "in" place. The famous have homes there; Walter Cronkite does, and Jackie Onassis. John Belushi is buried there. The trendy come, staying at the inns that once were the homes of whaling captains. The solidly successful are there, Washington lawyers and Boston surgeons.

I have been going there since 1972, when my mother made the serendipitous decision to move to Martha's Vineyard. In those 11 years I have met a few islanders, friends of my mother, but none of the rich and famous. (There is reverse snobbism here, of course; my mother once gave me a glass on which was etched "The girl who can't dance says the band can't play.") But the beautiful people are only the latest of the many waves of succession that have washed up on this island since the ice last retreated 15,000 years ago, and I am still working on the first.

For 11 years I have walked the beaches and dunes, the marshes and mud flats. I try to learn one tern from another, make some sense of the shrubs that begin behind the beaches. Generally I go in August, when the heirs to my fortune are between summer job and fall classroom. But this year I went back in October, and the island was a revelation.

In all those years I had never seen a great blue heron there. The bays and



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ponds looked perfectly acceptable to me, but a very occasional snowy egret was the best I could do. On the last evening of the August trip, however, I had pushed through the thickets to Trapps Pond at sunset and seen a sign in the sky: a great blue flying majestically toward the satellite island of Chappaquiddick.

In October the portent came true. Again at sunset, I had walked the length of the sandspit that runs north out of Edgartown Harbor and then curls west to enclose Eel Pond. I had seen a greater yellowlegs and small bands of black-bellied plovers and two great black-backed gulls in fierce aerobatics as one tried to make the other drop a shellfish. At the tip, I looked into the gathering darkness over the pond, listening to the celestial tinkling of the shorebirds working the mud flat. Then I looked right, where the open water was now black but still shot with the red of the sunset. And there in silhouette, neck outstretched and moving one foot at a time ever so slowly, was a great blue.

They were everywhere. On Chappaquiddick, as I walked north along the channel that carries the tide from Pocha Pond into Cape Poge Bay, one flew up the channel ahead of me, alighting and then flying again when I caught up. Crouched in the beach grass at Felix Neck, looking across the shallow waters of Sengekontacket Pond at the raucous avian bazaar that is Sarson Island, I froze as one of the great creatures silently dropped into the marsh grass next to me, only to be chased by a gull. Sensing motion from the corner of an eye, I swung the binoculars toward the pond's western shore and watched three more sail gracefully up into the trees.

As I have mentioned before in this column, great blues are special to me. When I see one I feel I have found the real world, that it is still there. On this trip they found me. One afternoon I stepped out the back door of my mother's house, intending to make a quick check of Trapps Pond. I looked up to see three great blues landing in the treetops across the driveway, perching matter-of-factly as though they had always lived there.

The bird I will never forget, however, was much less spectacular. One afternoon

On a winter day, a skiff hugs the shore of a pond on Martha's Vineyard.

Now a famed resort, the island is still a haven for those creatures who came first.

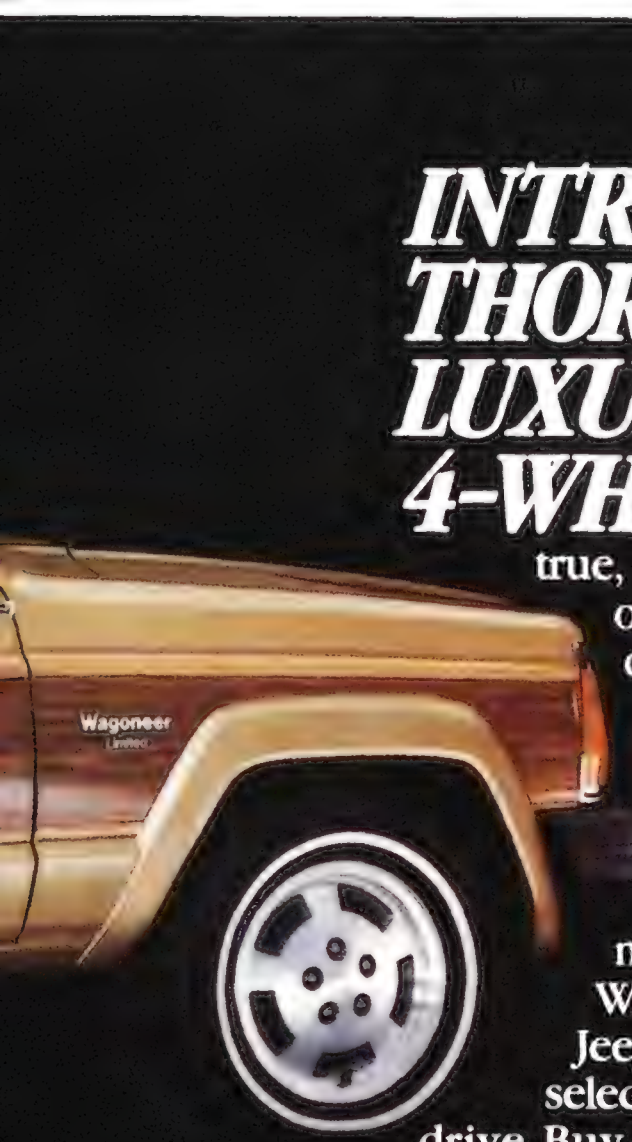
I found myself walking east on Norton Point, an extension of the barrier beach along the south side of the island which reaches to Chappaquiddick. It was a perfect fall day, brilliant sun and a southwest wind rushing in off the open ocean at 20 knots or better. Sanderlings were refueling in the wash, rushing after the receding water of a wave to probe bubbling holes in the sand with their black bills, then running up the beach from the next wave, their stiff legs a mechanical blur. Twenty scoters swam serenely out where the waves first began to break, effortlessly slipping under the water when a wave did break over them and bobbing up on the seaward side.

About two miles out on the point I notice a ducklike bird high on the beach, nestled in the dry sand and desiccated seaweed. As I approach, it rises to a nearly vertical position and skitters down the slope to the water, flapping its stubby wings and seeming to run on tiptoe. A grebe, by the shape of its head. It sort of collapses onto the wet sand and lets the wash sweep it down into the breaking surf. I worry it will be wrenched or pounded into the sand, but in a few moments it emerges well out in the breakers, little more than its head and neck showing, looking perfectly at home.

A little farther and I turn around, now taking the wind and sun in my face. The afternoon is half gone, and the sun is low enough to turn the angry waves into a sea of hammered silver. It seems a primeval shore now, wind, water and sand all meeting in tumult.

A dark blotch at the edge of the wash resolves itself into a bird, another grebe. Now I walk slowly, deliberately, keeping to my course higher on the beach along the wrack line. The bird does not flee into the water, does not move at all except to turn its head just enough to keep an eye on me. Perhaps, I think, its instinct is to "freeze"—if it does not move, I cannot see it. I walk past.

But the first grebe fled to the safety of the water. Suppose this one is hurt? I turn and walk directly to the bird, stopping 15 feet away. Motionless, it looks at me. I walk away. But I stop. If it is sick or injured, what then? Back again, walking gently. This time the grebe pushes its



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left foot, each toe separately webbed like the stems of the winged sumac, feebly against the sand. The bird seems too weak to move.

I pull off my shirt and hold it out to the bird, approaching it—a few ounces huddled in the wet sand—like a matador walking up to a fighting bull. The grebe strikes at the shirt, stretching its neck to a surprising length to deliver a peck that makes a barely perceptible tug.

Enough dithering. I drop the shirt over the bird, fall to my knees, slide my fingers underneath and pick up this bundle. The grebe hardly moves. Its feet test my fingers, not as though it is trying to push off but only to find the most comfortable spot.

We're off. It is two miles down the sand to the car, and then another five to the sanctuary, where they know about injured birds. I pull the shirt off the bird's head so it can see where we are going. No idle strolling now, but striding over the sand. The grebe seems remarkably calm. It sits most of the time with its head pulled down, looking straight ahead with the unblinking gaze of a ship's figurehead. Once it pecks at my left hand, so lightly that it seems more an inquiry, a moment of curiosity, than an attack. When I speak to it, murmuring gently that everything will be all right, the bird stretches its neck and turns its head 180 degrees to face me. Its brown eye looks directly into my blue ones and then it turns forward again to watch where we are going.

For a quiet bird watcher, the kind that turns back rather than put a group of gulls into the air, it was a wild moment: bare-chested on a sweater-and-windbreaker day, walking into a sun too bright to look at and a tearing wind, hands locked in front cradling the bird like a priest carrying a sacred vessel.

At the parking lot, I bundled the grebe into the back seat of the car, trying to understand what it must be like to have a roof over one's head for the first time. I drove to the sanctuary like a man delivering a case of nitroglycerin, gathered my passenger up again, and walked through the trees and into the office. The woman behind the desk was up, around her typewriter table and to me in one fluid, instantaneous motion. She took the grebe from me and led the way to a large square cage, its floor covered with fresh wood shavings. My part was over.

Two days later I saw the grebe again. On an early morning bird walk at the sanctuary, we came out of some woods to a turtle pond. The grebe disappeared under the water, then came up behind a rock out in the middle. The naturalist told me the bird had seemed weak, but nothing appeared to be wrong. So they had fed it and then released it into the pond. I went back to the pond several times, but never saw it again.

When I got back to Washington, people asked me how it had been on the Vineyard. And I spoke of perfect weather, the crowds nearly gone, the true relaxation of a real vacation. Very nice, yes, and now back to work. But the real news was that the great blues had been there, had been everywhere. And that for one glorious hour a little grebe had turned its head toward me as we walked into the sun and the wind with the waves crashing beside us.

John P. Wiley jr.

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BOX A

BOX B

BOX C

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Points of origin

Amidst their high-tech toys, children are still playing games popular in the Middle Ages and Renaissance

At a time of year when children and their toys and games are very much on our minds, one might reasonably wonder how youngsters occupied themselves before Christmas stockings were stuffed with video games and battery-powered Darth Vaders. Looking back, one finds some striking similarities to the games and toys of today—and also some differences.

In the Middle Ages and Renaissance, children were thought of as small adults. They were dressed virtually the same as grown-ups and were expected to act as adults—eventually, if not sooner. Their games and toys reflected and taught adult activities, values and behavior.

The French social historian Philippe Aries has proposed that "children form the most conservative of human societies." The child's toy windmill persists today despite an absence of windmills in most landscapes. In the same way that today's pinwheel can thus give a glimpse into the largely agricultural past of centuries ago, many games still played by 20th-century children provide a path back into the age of Chaucer. Continuing on into a much dimmer—perhaps even prehistoric—past, we can find in children's games a memory of ancient myths and rituals. As Henry Bett has observed, when children "play at the game of 'London Bridge is Broken Down,' or any of its analogues, they are unconsciously preserving the memory of the dark rite by which a human being was originally sacrificed to secure the stability of a bridge."

Children of the television age, however, may not be continuing this tradition as strongly. As part of a study of modern childhood, the late Washington educator Beatrice R. Metalitz hit upon

Kunsthistorisches Museum, Vienna

In Peter Bruegel the Elder's famous panel, *Children's Games*, painted in 1560, hoops, stilts, brooms, mud pies are among some 80 games depicted.

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the idea of using the more than 80 games depicted in Peter Bruegel the Elder's masterpiece, *Children's Games*, painted in 1560. Her concern was simply to find out how much children still know of these games, which appear to require little or no equipment and even less coaching, training and organizing. As Metalitz has written, "I had the Bruegel painting photographed in nine sections and showed the slides of the detail parts to a group of about 100 children 10 and 11 years old. They were asked three questions concerning their knowledge of the games: whether they had ever seen anyone play them, whether they had themselves played and whether they would like to play any of the games. The responses revealed that most of the games were totally unknown to most of the children." But obviously, marbles, balloons, mud pies, dolls and jacks—all among Bruegel's games—are far from forgotten.

An early and extensive catalog of children's games was written in the 1360s by Jean Froissart and inserted in his long (4,198 lines) French poem called *L'espinette amoureuse* (The Sting of Love). The list contains some 60 games he played as a child, many of which are incomprehensible to modern readers of the poem. Others, however, are more obvious, such as follow the leader, making mud pies and playing with shells and pebbles. A 14th-century register of a Parisian college contains an odd marginal note listing *Les Jeux des enffenz* (the games of children). Included are *au crocet* (a precursor of golf), marbles, hat throwing and Froissart's mysterious pinching game, *à la pince morele*, or pinch-the-ear.

Actually the task of interpreting many of Froissart's games was made easier by Rabelais, who in 1534 wrote out a more comprehensive catalog of 217 games played by Gargantua, the hero of his comic prose epic. Just over a century later, in 1657, a series of 50 copperplate engravings which showed children at play was published. The plates were accompanied by short verse captions describing each game. Included are *les bouteilles de savon* (blowing bubbles), *la poste* (leapfrog), *l'assaut du chasteau* (king of the mountain) and *la bataille* (free-for-all). The plates illustrate many of the games of Froissart and Rabelais.

For children's games among the English, we are dependent on the 12th-century observer William Fitzstephen (as reprinted by John Stow in 1598), who lived during the reign of Henry II. Fourteenth- and 15th-century Latin-to-English vocabularies can also be consulted for the diction associated with child's play. These lists were compiled by educated clerics when they wrote in Latin about their unlettered flocks, or when they preached to them in English. They show that clerics who wanted to record faithfully the activities around them needed to know the names of the common games.

The high point for references to English children's games occurs in the plays of Shakespeare, where almost 50 games and sports are mentioned, many for children—including hide and seek, quoits, pushpin and handy dandy (also called, which hand?).

A number of scholars have examined the childhood games in Shakespeare. Among them, the American Paul G. Brewster has traced the games, not only in Shakespeare, but also in the works of other Elizabethan playwrights. Many of these games have medieval pedigrees. Although Shakespeare mentions tops in four plays, an earlier literary use of the game appears in Dante: "And gladness was the whip of the top."

Children will be children, and will sometimes be called on the carpet. A rare instance of a decree directed against a children's game is associated with Prisoner's Base, a catching game. In 1331, it was banned in and around the palace at Westminster, so as to keep from disturbing members of Parliament. There was another ban in 1351, with the provision that children refrain from laying hands on or pulling hoods off passers-by.

Other games served to encourage in children the martial tone of the Middle Ages. Quintain involved a mechanical contraption that taught proper lance handling. In one form of the game, a boy missing the target was struck from behind by a reciprocating arm. In 1253, the children of London citizens defeated a quintain team composed of household servants of Henry III. An aquatic version of the game was probably more effective, if not more fun. Here, a boy standing in the bow of a rowboat aimed his lance at a target. If his aim was off the mark, he went overboard. As Fitzstephen notes, the purpose was clear:

"Sometime two runne togither with Poles, and hitting one the other, eyther one or both doe fall, not without hurt: some breake their armes, some their legges, but youth desirous of glorie in this sort exerciseth itselfe agaynst the time of warre."

The use of toys to foster militarism is not a modern phenomenon. A 13th-century French manuscript shows a popular toy that was actually a pair of jumping jacks operated by string. But instead of being merely stick figures, they are armed knights locked in mortal combat with sword and shield.

Scholars have also discovered that juvenile knighthood was practiced on hobbyhorses. A drawing in a manuscript from c. 1500 shows a mock tournament, on hobbyhorseback, in progress. And graffiti scratched onto the stone walls near the doors of three English churches (c. 1300) show hobbyhorses with shaggy manes and riders' loops, standing upright. The meaning is obvious: Park your hobbyhorse outside.

Michael Olmert

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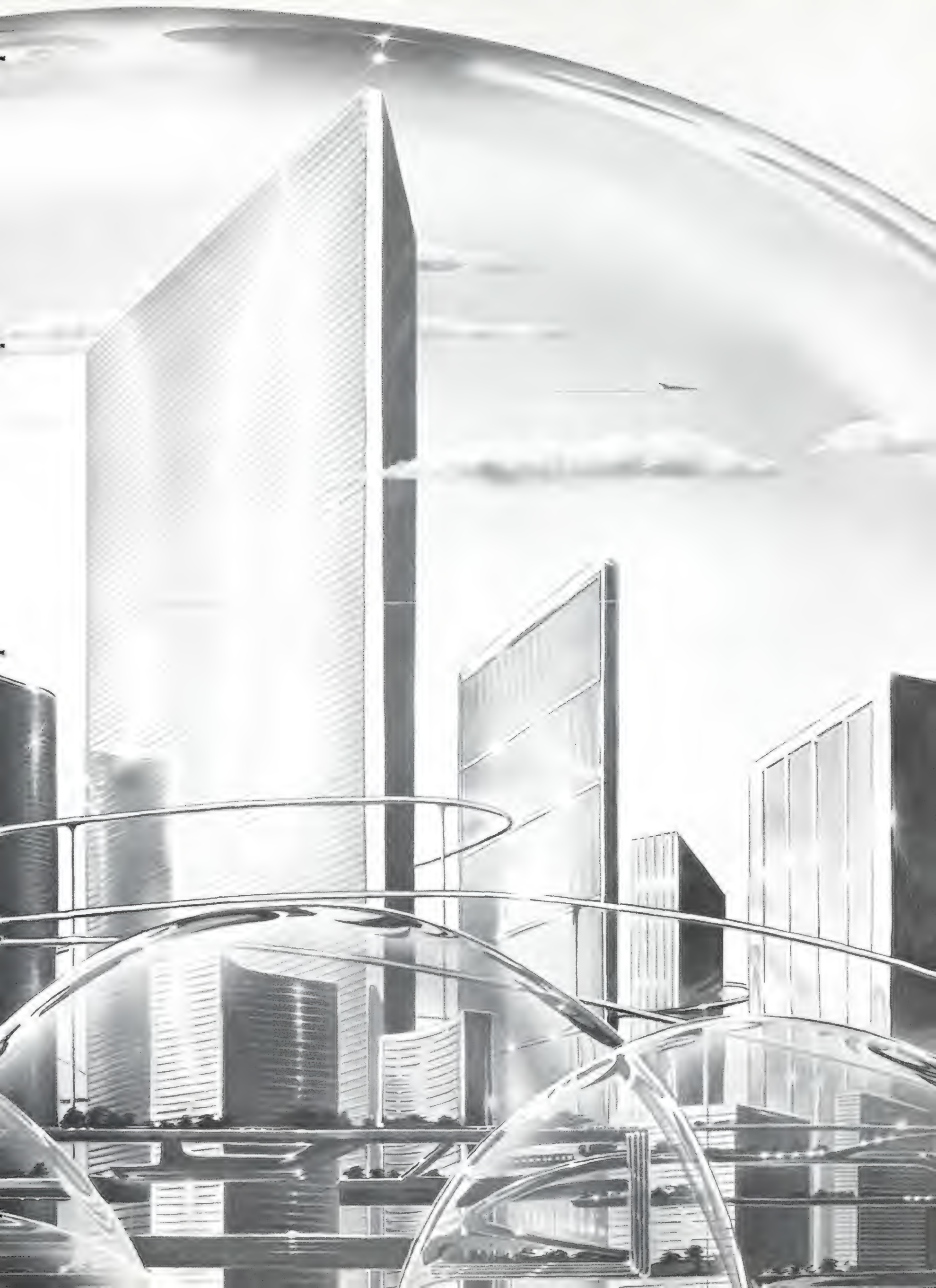


By Richard L. Williams

For the all-too-common cold, we are perfect, if unwilling, hosts

More than 200 viruses thrive in the linings of the human nose and throat; scientists are now searching for a way to evict them

Their motel-room doors are open and they sit cross-legged in the doorways, wearing bathrobes or shorts, eating from trays and chatting with each other. They are University of Virginia students, an equal mix of women and men, who have volunteered for a week-long experiment to test the efficacy of a pharmaceutical company's cold-preventive compound. The company is paying them $35 a day, plus meals and rooms, in exchange for isolation, boredom—and the chance of catching a cold.

The investigator, Dr. Jack M. Gwaltney, sprays their nostrils with the new compound or with a placebo, an inactive substance. All of them are injected with Type 39 rhinovirus, a known cold producer. The test is double-blind: neither the students nor Gwaltney know which students were sprayed with the new compound and which with the placebo. Both are shipped to Gwaltney in numbered but otherwise identical bottles, one for each participant. The code that reveals which is which is sent in a sealed envelope. Only after the students are checked for colds at the end of the test will the envelope be opened. . . .

The drug company that finds a cold preventive will be on to something good: Americans catch on the order of a billion colds a year, and spend close to a billion dollars a year on over-the-counter cough remedies, nasal sprays and other symptom relievers. Colds themselves are not serious diseases, although they can lead to them. But in the aggregate they do have a high cost in days lost from work and school and in the sheer miseries they produce.

Colds have been with us throughout recorded history, perhaps ever since humans became social animals. Nearly everyone knows from first-hand experience what it means to have a cold, and yet only in recent times have we begun to understand what is happening when the nose begins to run, the head feels stuffy and the throat is sore. And only now are we beginning to see how colds can be stopped.

In ancient times, the symptoms of a cold were known as catarrh and the nasal discharge was believed to be waste products of the brain. Treatments and preventives were as far off the mark. Hippocrates noted that bleeding was a frequent treatment. Pliny the Elder, the naturalist who was asphyxiated in the A.D. 79 eruption of Vesuvius, prescribed a daffy treatment: "kissing the hairy muzzle of a mouse." Advice still heard today is hardly more scientific: Wear garlic buds. Eat lots of onions. Try electric shock. Drink hot lemonade. Inhale a little tear gas. Some advice makes more sense, including the admonition of uncounted mothers to their children not to get their feet wet. One of the more imaginative palliatives is a sure (if temporary) cure for the discomfort, if not the cold. As graphically phrased by the late Dr. William Osler of Johns Hopkins: "Go to bed. Hang your hat on a bedpost. Drink whiskey until you see two hats. In the morning you'll be much better."

Today we know that a cold is a viral infection of the linings of the upper respiratory tract. Specific viruses enter and eventually kill the cells in the mucous membrane of the nose and throat. We do not feel this viral

As suggested by this photomontage, invading viruses multiply explosively when they take over our cells.

attack itself; the symptoms we experience are entirely manifestations of the body's defensive reactions. The remedies we buy at the drugstore do indeed alleviate the symptoms, but do nothing for the viral infection itself. They almost become co-conspirators, in fact, in that they can interfere with the body's hastily constructed defenses.

The membranes in our nose and throat produce a blanket of mucus that traps inhaled dust, pollen, bacteria and viruses. Millions of tiny hairlike objects called cilia wave in unison to propel the mucus, like some sticky conveyor belt, back through the nose and up the windpipe to the esophagus. Once in the digestive tract the mucus is swallowed and its cargo of pollutants and infectious agents is eventually destroyed.

When we catch a cold, it means that a virus has managed to penetrate this protective blanket and attack the living cells underneath. A virus is extremely small (on the order of one ten-millionth of an inch across), a package of genetic material so simple that it is debatable whether viruses can be considered living things. The protein coat around the genetic material can attach itself to only one kind of cell; in the case of a cold, the cells of the mucous membrane. The virus then injects its genetic material into the cell and compels the cell to stop its normal function and turn its resources to making more of the viruses. As many as a thousand new viruses may come bursting out of a single cell; the latter is left for dead. The new viruses attack surrounding cells and the process multiplies exponentially. By about the third day of the attack, the sneezing, coughing, sniffling victim will be spreading the virus through the environment and to its next victims.

Contributing Editor Richard L. Williams' last article for SMITHSONIAN *was about earthquakes and prospects for their prediction (July 1983).*

Throughout the years we have tried many preventives and aids, from bottles of whiskey to cans of tear gas.

From the point of view of the virus, the whole endeavor has been a smashing success.

The human body, however, has been under viral attack for a long time and has powerful responses. Before they go under, infected cells release a substance called interferon into the intercellular fluid. It somehow alerts neighboring healthy cells to the invasion and triggers them to produce antiviral chemicals.

If the infection continues to spread, the body turns to a nonspecific defense: inflammation. Membrane cells begin to release other substances into the inter-

Other unsure cures: onions, soap, psychotherapy, pills, shock, apples, sunshine, kissing a mouse's muzzle.

cellular space. One is histamine, a substance that dilates the blood capillaries. All the suffering we associate with a cold immediately follows. More blood flows through the expanded blood vessels, so the affected area reddens and warms. Blood plasma along with some important defensive chemicals seeps through the stretched walls of the blood vessel. The injection of this extra fluid into the tissue of the mucous membrane causes it to swell, narrowing the nasal passages and producing the condition we know as "congestion." The mucus-secreting cells on the swollen tissue step up their production. Now not all the mucus can be transported up through the narrowed passages of the nose, so some of it simply drips out: we say the nose is "running." Nerve endings in the nose sense the swelling and cell destruction; the brain responds by firing the muscles involved in a sneeze. Other nerves sense too much mucus in the trachea for the cilia there to carry up to the esophagus; a cough clears the passage before the disease-ridden mucus can descend to the lungs.

In other words, we do not know we are under attack until we begin to feel the discomfort of our own defenses. As Wendy Murphy wrote in *Coping with the Common Cold,* "The cold sufferer feels fine while being attacked by infection, discovers he has 'just' caught a cold at the point when his body is beginning to cure it, and feels miserable mainly because his body is making him well."

The basic question of how we catch cold

It is nice to get well, but it would be much nicer not to catch a cold in the first place. One of the questions scientists have been working hardest at answering is how colds are transmitted. The man who laid the groundwork for modern-day research was the epidemiologist Wade Hampton Frost, first Dean of Public Health at Johns Hopkins. He never knew what a cold was or what caused it, because in his time viruses had not yet been isolated. He correctly assumed, however, that colds are caused by some infectious microorganism. His painstaking statistical studies of cold epidemics among widely separated student populations and families led him to the conclusion, never disproved, that epidemics of colds have nothing to do with weather or climate. By 1941 Frost was able to show that during the winter months, respiratory disease appeared in a series of short epidemics of irregular sequence and magnitude. This suggested that colds were caused by a variety of different agents.

The biggest breakthrough for cold research was the discovery in 1949 by John Enders and his associates in Boston that viruses could be isolated in cell cultures. Enders was able to grow polio viruses, an accomplishment that was to lead eventually to polio vaccines and to a Nobel Prize for him and his team. The same techniques could be used to isolate and culture many other viruses. The first one that causes colds, an adenovirus, was isolated in the early 1950s. Soon afterward, two separate teams isolated a rhinovirus (rhino is from the Greek word for nose), the principal agent of the common cold.

News of the breakthroughs was especially welcome at the Common Cold Unit of Harvard Hospital in Salisbury, England. Housed in a medical laboratory

established during World War II to handle plagues that never materialized, Sir Christopher Andrewes and his colleagues had been working since 1946 on the etiology, transmission, prevention and treatment of colds. Using the new techniques, the Salisbury team was able to grow a series of cold viruses and confirm that there is not one cold virus but many.

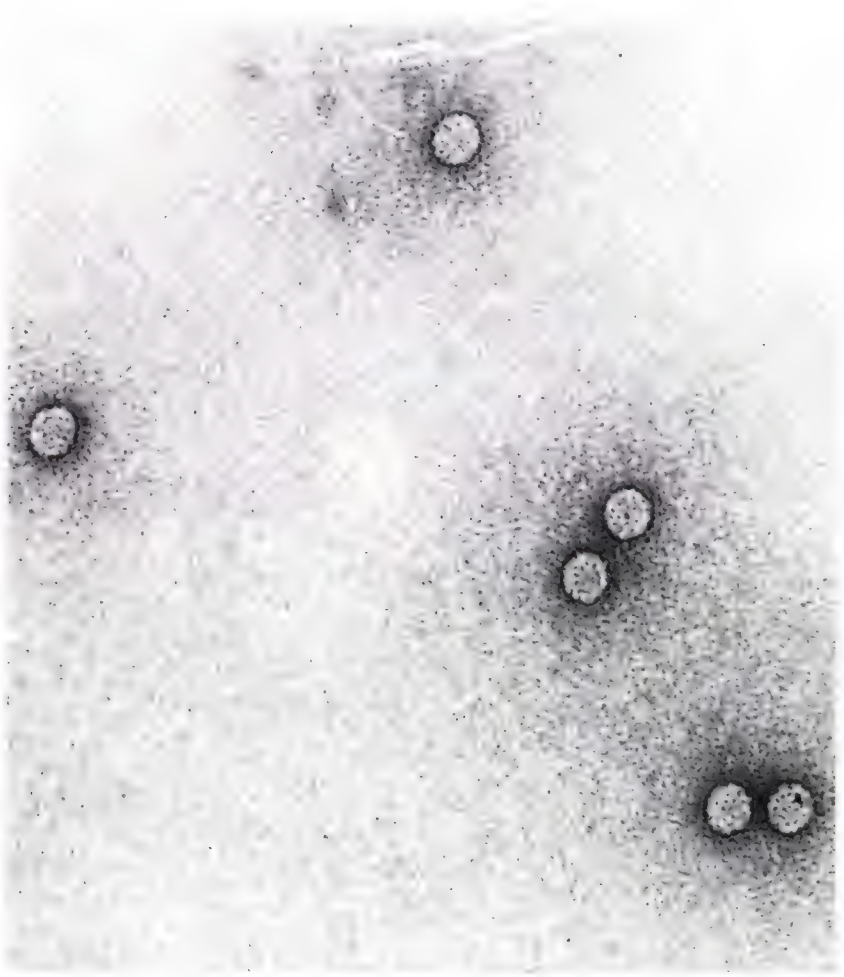
The unit had already devised elaborate tests of how people catch colds. Volunteers were marooned on an island for an entire summer to see whether extended isolation increased their susceptibility (it didn't seem to). Other volunteers agreed to stand wet and unclothed in cold hallways after a bath while yet others went outside to get soaked in the rain (the researchers found little or no connection between this sort of wet chilling and the catching of colds).

Over the years, the unit has studied how colds are transmitted and explored any number of preventives and remedies. Every ten days, 30 volunteers show up at Salisbury to be isolated (those who arrive with natural or "wild" colds are screened out) and deliberately exposed to cold viruses. Like the Virginia students, they are on paid vacation, free to watch the telly, play games or take walks—as long as they keep 30 feet apart (p. 53).

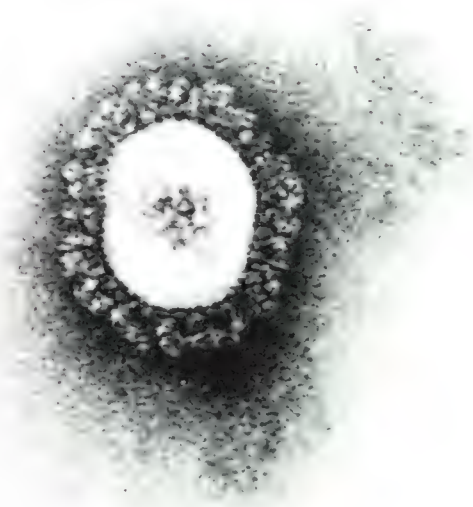
The most promising substance the Salisbury unit has tested recently, under David Tyrrell, Andrewes' successor, is interferon. Originally it had to be produced from human blood, and because it is present in such small quantities a single dose cost $3,000 or more. But now bacteria have been genetically engineered to produce it, and a dose costs about a dollar. Still, investigators are not sure that it would be a good idea to take interferon continuously to ward off colds, and in any event most research with interferon is concentrated on more serious diseases, including cancer.

Scientists have pretty much given up on the idea of developing a vaccine against colds because too many infectious agents are involved; more than 200, at last count. A vaccine that works against one is no help against the next. When the first rhinovirus was isolated, investigators immediately thought of a vaccine. But by 1962 at least 20 types of rhinoviruses had been isolated, each of them a distinct entity as far as the human body is concerned. Today at least 113 are known. And rhinoviruses are only one of the agents that cause colds. By 1983 the constellation of cold viruses looked like this:

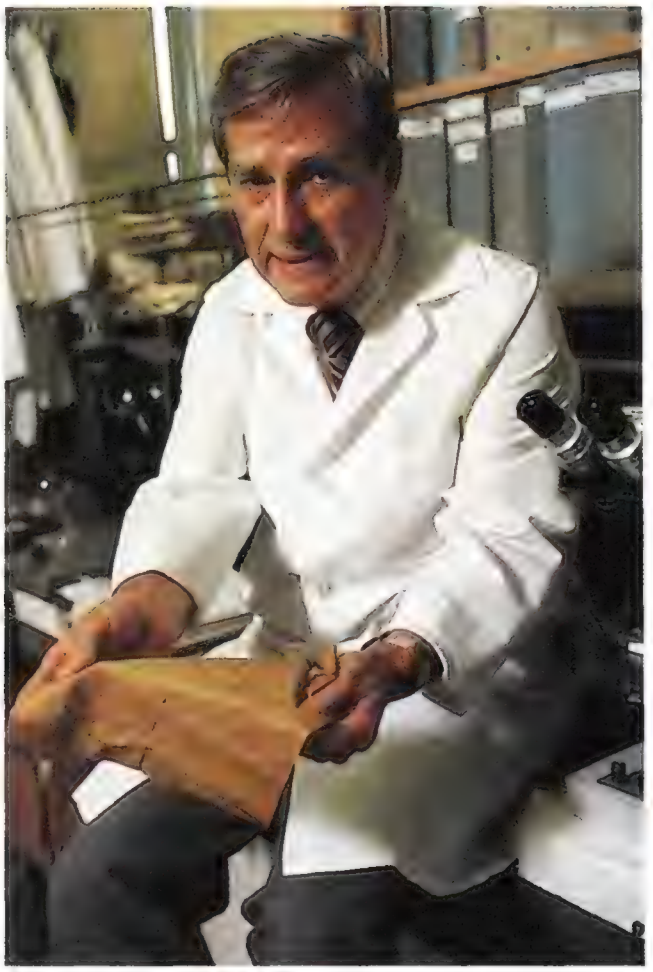
- Rhinoviruses, most active in spring, summer and early fall, cause about 30 percent of all colds. Because there are so many kinds, a person can catch a cold every year of his life and never the same one twice.
- Coronaviruses, so-called because under the electron microscope they look something like a solar corona.



Rhinoviruses, the group that causes more colds than any other, are shown magnified some 200,000 times.



Coronaviruses, the second leading producer of colds, are named for the clublike projections that line them.



Dr. Elliot Dick is testing facial tissues impregnated with iodine.

Genetically engineered bacteria now produce interferon in laboratory.

An Israeli device sends heated, moist air into the nasal passages.

Only about four types have been found that affect humans; other coronaviruses cause serious disease in animals. They cause 15 to 20 percent of the colds in humans, mainly in the winter.

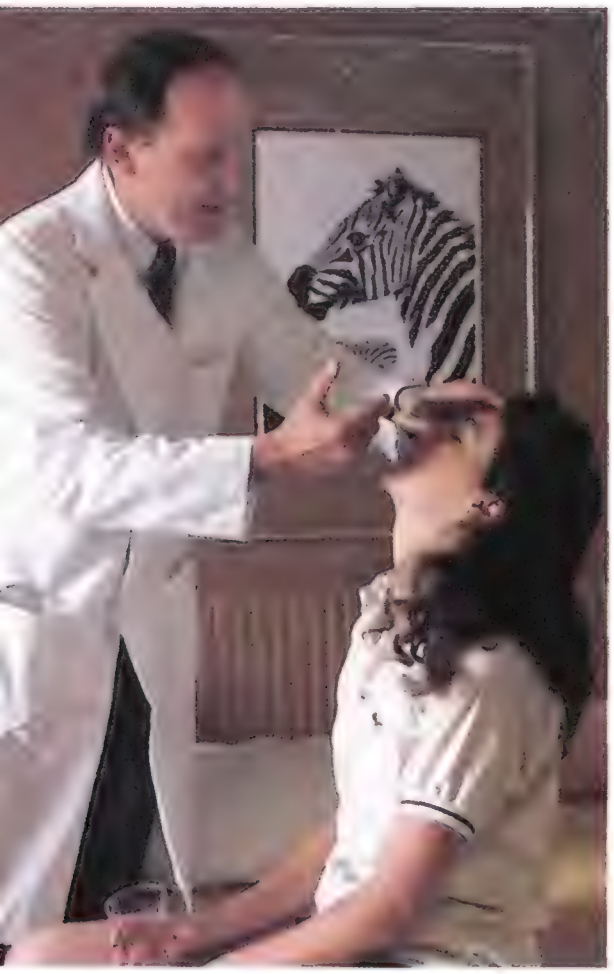
- Adenoviruses are most active in late winter, early spring and early summer. In most adults they produce only colds, and in far fewer numbers than do the rhinoviruses. But in certain groups, notably among military recruits, they cause an acute febrile illness, for reasons that no one understands.
- Parainfluenza viruses are very similar to the more dangerous influenza virus, but tend to produce only mild colds in adults. In children, however, they can lead to croup and an inflammation of the lungs known as bronchiolitis.
- Respiratory syncytial cold viruses by and large cause colds in adults and diseases of the lower respiratory tract in children.
- Coxsackieviruses and echoviruses produce summer colds with fever; the latter also tend to produce severe coughs, especially in children. Completely aside from colds, they are generally responsible for such major illnesses as meningitis, pleurisy and pericarditis.

The last five together account for only about ten percent of the colds suffered in this country. This means we still have not identified the agents that cause up to 40 percent of all colds.

Finding preventives or cures for each seems impractical. But some drugs do fight all colds. Interferon, already mentioned, presents problems: it is still experimental, and does produce side effects. If it turns out that interferon is effective at low doses, then it could be a feasible preventive. Amantadine hydrochloride, marketed under the trade name Symmetrel, works against certain types of influenza. It came out of drug-company searches for compounds that are effective against respiratory viruses. More are under study.

Influenza, another and potentially much more serious respiratory infection, keeps cropping up in any story about the common cold. Physicians estimate that for every case of influenza they diagnose, another is misdiagnosed by the victim as just a cold. It is important to make the distinction: influenza itself can kill, especially in the pandemics that periodically sweep the world. Some 20 million people died in the outbreak of 1918-19. Particularly susceptible are people who already suffer from chronic debilitating ailments such as heart disease, emphysema or diabetes; pregnant women; and people older than 45, especially those over 65. And influenza can lead to pneumonia, also a potentially fatal disease. The latter may arise from a secondary bacterial infection (in about four out of five cases) or from the influenza virus itself.

The flu is easy to diagnose during an epidemic,



Dr. Jack Gwaltney washes the nose of a volunteer at the University of Virginia.

Mark Johnson, who was given a placebo during the test, works on a full-blown cold.

partly because the clinical aspects are consistent but also because the influenza viruses tend to predominate during such an outbreak. Sporadic cases of flu are more difficult, however, and often the physician cannot be sure without laboratory diagnosis. The symptom to watch is fever: it is present in about half of all flu cases on the first day and in three out of four patients by the third day. With most colds there is little or no fever. If fever persists beyond the fourth or fifth day, or if it recurs abruptly after convalescence appears to have begun, the victim may have pneumonia and should see a doctor.

Because the common cold and influenza are such closely related diseases, scientists hope that if they find a preventive for the former, it will also be of use against the latter.

The most famous—and most controversial—potential cold preventive is Vitamin C, long championed by Nobel Laureate Linus Pauling. Vitamin C is required for the synthesis of collagen, the fibrous protein of which much of our connective tissue is composed. Tiny fibrils of collagen are embedded in the intercellular cement that holds the cells together, much like steel reinforcing rods in concrete. In the absence of sufficient Vitamin C, the fibrils do not form and cells begin to separate. When this happens to the cells of a blood vessel, hemorrhaging begins—a condition seen in scurvy. It is Pauling's theory that increasing the intake of Vitamin C strengthens the intercellular cement to the point that invading viruses are hindered or even stopped from moving through the tissue.

After years of testing the theory in this country and Canada, most physicians and researchers feel that high doses of Vitamin C have little or no effect. But Pauling persists. In the 1981 revised edition of his book, *Vitamin C, the Common Cold & the Flu*, he suggests one to two grams a day for good health. (Because of the variations between individuals, some people may do fine on just 250 milligrams a day while others could need five grams, he explains. A person can determine his optimal level in a few months; if he still gets two or three colds every winter, he should increase the dose.)

Despite Pauling's confidence, and because the tests do not seem to bear him out, most medical scientists

believe they are nowhere near being able to keep you from catching a cold, or to cure you if you do. The next best bet is to learn how to keep cold viruses from being transmitted to you in the first place. To do that, scientists must know how colds are transmitted, and they are just beginning to find out.

At the University of Wisconsin in Madison, Dr. Elliot C. Dick is working on exactly that question. He places "donors," volunteers practically dripping cold viruses, into close quarters with volunteer "recipients" for different periods of time, engaging them in various activities involving various degrees of intimacy. He is also the developer of a facial tissue impregnated with iodine, which has been jokingly dubbed the "killer Kleenex." Iodine does kill viruses, and the facial tissue markedly reduces the number of viruses a donor sheds into the environment. The killer Kleenex performed well in early tests in Antarctica, where the annual fly-in of new personnel has always caused an epidemic of colds among the year-round staff.

Virginia volunteers eat in the doorways of their motel rooms; they are allowed to get no closer.

Breaking the chain of cold transmission

At the University of Virginia, Gwaltney and Dr. Owen Hendley have been running transmission tests on insurance-company workers, Charlottesville families and university students. Their research suggests that hand-to-hand self-inoculating contact—rather than sneezing and coughing, as popularly supposed—is the way most colds spread. It seems we literally "catch a cold" with our hands. Shaking hands with an infectious person, or even grasping a doorknob he has handled (the viruses can live for 72 hours on such a surface) may suffice. The victim later rubs his eyes, where the viruses can take hold in the conjunctiva, the membrane under the eyelids. Or he touches his nose—and the viruses are introduced into their promised land.

Kissing, incidentally, is a poor way to transmit a cold. In one experiment in which actively shedding donors kissed healthy recipients for 60 to 90 seconds, only eight percent of the recipients were infected. (One of the reports is entitled: "Studies on the failure of direct oral contact to transmit rhinovirus infection between human volunteers.")

What is a person to do? First of all, we develop immunities as we go through life. We are less likely to catch the same cold twice. Dr. Arnold Monto of the University of Michigan has followed 1,000 people for 11 years, learning who gets how many colds. Young children, who have not developed many immunities, tend to have three or four a year; by the age of 60, the rate drops to 0.25 a year. Women have more colds than men, especially those in the 20 to 30 age group who are most likely to have contact with young children.

Beyond developing immunities the hard way, there

At Common Cold Research Unit in England, David and Sally Roff, left, keep 30 feet from their peers.

Members of Dr. Dick's staff, taking places of volunteers, play card games and use tissues laced with iodine.

is little a person can do to avoid colds except to stay in as good general health as possible. If one is exposed to cold sufferers, one should take reasonable precautions to break the chain of transmission. Encourage everyone in the house, including the victim, to wash his hands frequently. Make sure the sick person has an ample supply of facial tissues and a paper bag reserved for them. Promote air circulation in the house. It might be wise to keep hands away from your face.

But if worse comes to worst and you do catch a cold, now what? You will have the cold for a week or ten days, no matter what you do. There are, however, things that can alleviate the misery, reduce the severity and perhaps shorten the illness. Here are some thoughts on the subject:

- Do not try to fight the cold by pretending it does not exist. If it is severe, stay home so you get some rest and you do not infect fellow workers. Stay in bed, drink lots of fluids and relax. Chicken soup does help: the fumes relieve a stuffy head.
- If it hangs on longer than seems reasonable, you may have influenza or some other more serious disease. See a doctor.
- Think twice about taking a multipurpose cold remedy unless you happen to have all of the symptoms the medication is made to alleviate.

That last is important to consider. First, in an elaborate review of over-the-counter cold remedies, the Food and Drug Administration could find no evidence that some of them work. Others do. Those that do work interfere with various normal bodily responses and may have unwanted side effects. Aspirin, for instance, may irritate the stomach lining; it slows blood clotting and can cause liver and kidney damage.

One popular multi-cold-symptom reliever contains four active ingredients. Acetaminophen, which relieves headaches and mild muscle pain and lowers fever, can cause dizziness. In rare cases, it can also cause liver damage or hepatitis, reduce white-blood-cell count and disturb bone-marrow functions. Chlorpheniramine, which dries and shrinks nasal membranes, can cause dizziness and drowsiness and the same disturbed bone-marrow functions and reduced white-blood-cell count. Dextromethorphan, which suppresses coughing, can produce drowsiness, dizziness, upset stomach. Phenylpropanolamine, which also dries and shrinks nasal membranes, can cause nervousness and insomnia; in extreme reactions, it can produce changes in blood pressure and heartbeat.

None of which is to say we should not take cold

Label on a 19th-century patent medicine claimed "a sure cure for all affections of the throat and lungs."

remedies. For most of us these side effects are minimal and worth the small risk in order to keep functioning. But they are active drugs, some with serious potential side effects, and we should not take them lightly. And, as mentioned above, we may be in the position of fighting our body's own defenses.

An Israeli scientist is working on another way to relieve the symptoms. Dr. Aharon Yerushalmi at the Weizmann Institute of Science has developed the "Rhinotherm" (p. 51), a machine that sends moist air heated to 107 degrees F into the nasal passages. The theory is that the viruses cannot survive at such a temperature; Dr. Yerushalmi makes no claim that all the viruses are killed but does say that using the machine for 30 minutes clears up the symptoms.

In the meantime, virologists continue their search for the unknown viruses that cause 40 percent of our colds. Pharmaceutical companies look for compounds that will work against all colds. So far it is all uphill. In the test at the University of Virginia mentioned earlier, when Dr. Gwaltney opened the envelope and found out which volunteers had received the drug and which the placebo, he determined that the drug had had no effect. There was no significant difference in the infection rate of the two groups. And physicians still study the train of transmission, seeking the best place to interrupt it.

Directly under Dr. Gwaltney's laboratory at Charlottesville is the University of Virginia's biomedical engineering headquarters where a professor in her 60s works. One day the woman came up to Gwaltney's lab and said, "Don't take affront, but I've been having a lot of colds this year after not having had any for years past. I wonder, are you dumping virus in the drain of your sink?"

The doctor assured her that he never does, and asked her who was living in her home, knowing that she and her husband had no young children. "Well," she said, "this past year my daughter came to live with us with her four-year-old son, who's in nursery school."

"And that was it," says Dr. Gwaltney. "To get sick, you've got to be exposed."

Linus Pauling relaxes in his kitchen, well-stocked with oranges, near Big Sur, California. The two-time Nobel Prize winner maintains that large doses of Vitamin C fight off colds, a thesis so far unconfirmed.

A reluctant customer arrives in his Peugeot

It isn't fair, the boy thought, he had distinctly heard "ice-cream cone" mentioned, and now here he was, instead, perched high in the air wearing a sheet while somebody named Joe pretended to be his friend and made the hair fall off his head and tickle his nose so he sneezed.

It isn't fair, his mother thought, he's still a baby! The curls were so sweet. Now he looks like a little stranger with his ears sticking out like that. And there's the back of his neck, so defenseless. She must remember to keep one of his curls, maybe tie it up with a ribbon and put it in the family album.

"Well, I'll be darned, the boy actually has a forehead!" said the father, and laughed.

The boy didn't know why it was funny, but he laughed too.

Seats wrapped in a soft, supple leather are standard equipment in the Peugeot 505 STI. Both front seats are heated in the winter.

The car in which the boy will visit the ice-cream parlor next is a Peugeot 505 STI. It is perhaps the most comfortable car you have ever sat in.

The leather seats, you see, are built with expensive polymerized foam instead of the usual bouncy springs. Your mind will tell you that you are traveling along a bumpy road, but very little of the roughness will ever reach you through the seats.

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PEUGEOT

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VENICE SIMPLON
ORIENT-EXPRESS
LONDON · PARIS · VENICE

By Barnaby Conrad III

'Train of Kings, the King of Trains' is back on track

The Orient Express, a glorious time machine, takes lucky passengers on a tour through a century of spies, murderers and courtesans

Inevitable mysterious beauty peers from a gleaming car of renovated Orient Express en route to Venice.

It's just another train, I told myself; just another European train between London and Venice, I repeated as I walked hurriedly through Victoria Station. If it was just another train, then why had I taken my tuxedo out of mothballs? And why did another voice—make that voices—whisper, "Monsieur, it's not a train any more than the Ritz is simply a hotel," and then, "Mein Herr, it's *the* train," and finally, "Scusi, signore, but this is not just a train . . . it is a state of mind."

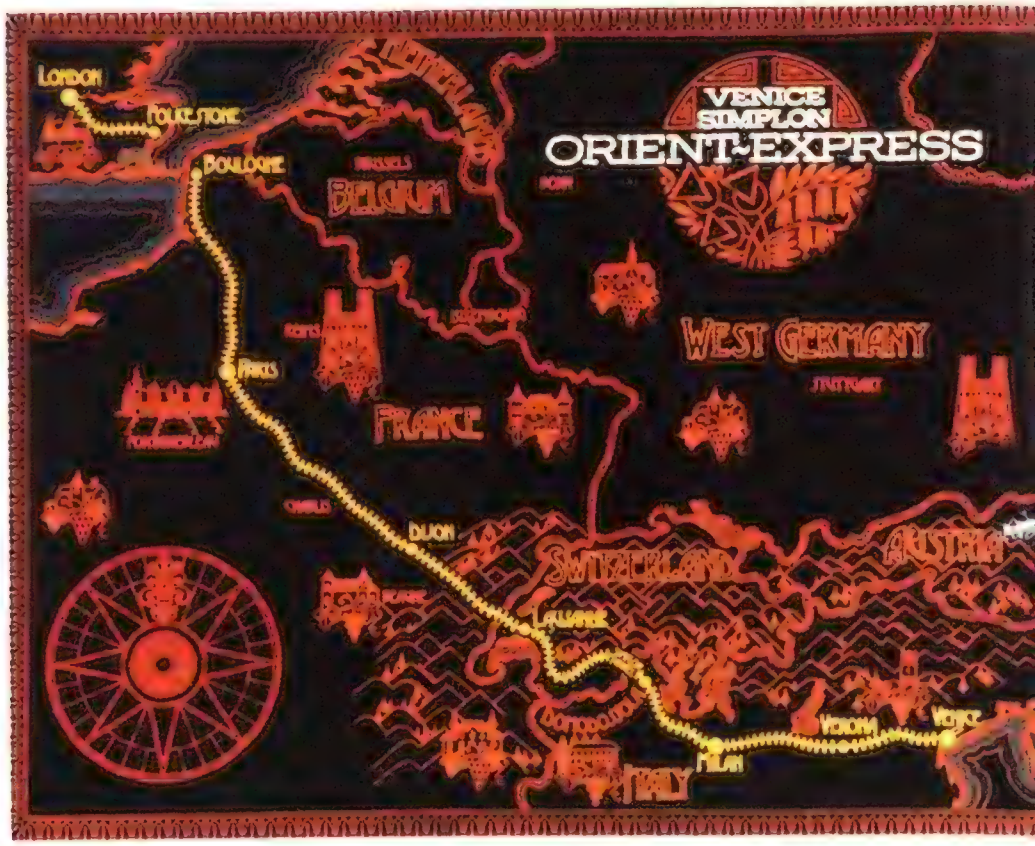
As I walked through the special gate marked Venice Simplon-Orient-Express (VS-O-E), there stood before me the first leg of my adventure, a gleaming cream-and-brown time machine on rails. How often I had ridden this train before in my mind, from Agatha Christie's *Murder on the Orient Express* to Graham Greene's *Stamboul Train* and Ian Fleming's *From Russia, With Love*; but now, seeing it, I was unable to decide whether the train had come over to our side—reality—or if I had pierced the veil into a time warp.

"Good morning, sir," said a very English voice and I turned to see a portly uniformed gentleman with pork-chop sideburns, wind-cherried cheeks and twinkling eyes. Alan Pegler was not just a character actor from central casting but, in fact, the assistant train manager. "You'll be in *Phoenix*—favorite carriage of Queen Elizabeth the Queen Mother, it was," he said. In a moment he'd sicced a friendly porter (also in period costume) onto my bag, then led me inside a richly paneled 1920s car. My seat was an overstuffed chair before a table covered with linen, silver, glassware and a bottle of champagne. The other passengers —mainly well-dressed Americans and Britons—boarded the train and very soon conversations were springing up among strangers. As we rolled out of the station one woman sighed, "It's so . . . you know. . . ." She finished the sentence with a sigh because "romantic," as we world-weary of the 20th century know, is a word that can rarely be used today without drawing the smirk of a cynic.

One hundred years ago, on October 4, 1883, the most famous train in history steamed out of Paris' Gare de Strasbourg (now Gare de l'Est) bound for distant Romania. The official inaugural run of the Orient Express carried some 40 eminent officials, executives and excitable press, and made headlines around the world. The "Magic Carpet to the Orient," as it was called, chugged all the way to Giurgiu, some 45 miles south of Bucharest where the rails reached the Danube. Although these first passengers were forced to take an inferior train and an overnight steamship to reach Constantinople, as it then was, already the dream was on its way to becoming reality: a through train from Paris to Constantinople, a distance of 1,900 miles.

By the turn of the century, that journey was being made in three days and in a manner of such luxury that

Popular Fix-Masseau poster was inspired by '20s novel about the train, *The Madonna of the Sleeping Cars.*



Simplon route was established in 1919 after Treaty of Versailles to avoid going through Germany and Austria.

Georges Nagelmackers saw dream come true—a "train fit for royalty," linking most of the capitals of Europe.

the Orient Express became the "Train of Kings, the King of Trains." As it rolled through the next century it became a nearly mythic caravan of romance and intrigue so that today the mere mention of its name conjures up the ghostly faces of Leopold II, Mata Hari and the Duke of Windsor, along with a spectral legion of royalty, lovers and spies. Their stories have been exaggerated and repeated so often that at times reality becomes elusive.

Linking republics, kingdoms and empires of Europe, the train became the setting for more than a dozen books and a number of motion pictures before finally succumbing to the modern craving for speed. A pale shadow of the Orient Express made its last run on May 19, 1977. But even as some sleeping cars went to the auction block, an American tycoon named James Sherwood was planning a rebirth. On May 25, 1982, the gleaming blue-and-gold cars of the Orient Express rose phoenixlike from the dead, and it was this train that I would be meeting when I reached the other side of the English Channel.

The Orient Express began as the dream of a young Belgian banker named Georges Nagelmackers (left) who had visited the United States in 1868, just as a great railroad boom was beginning. Nagelmackers' family had been heavily involved in Belgian railroad financing and was blessed with a social standing that allowed him to present Leopold II, King of the Belgians, with an extraordinary idea—a luxury train to span Europe. The king eagerly lent his support to

Nagelmackers' Compagnie Internationale des Wagons-Lits et des Grands Express Européens.

One would have thought that Nagelmackers' dream of a safe, fast and luxurious train would have been readily embraced by Europe. Not so. The French and Germans were still edgy after their recent war. The British weren't crazy about competition with their sea trade and passenger ships. The Russians didn't particularly want to give Germans or Austrians easy rail access to Constantinople.

Ambition, charm and access to royalty

Nagelmackers had ambition, but he had even more essential qualities: a polished persuasiveness and access to Leopold II, who was related to virtually every dynasty in Europe. Nagelmackers eventually brought together countries whose cultures varied as much as the personalities of their leaders. Imagine the difference between the "nervous splendor" of Franz Josef's Austro-Hungarian Empire and the unstable Ottoman Empire under the Red Sultan, Abdul Hamid II!

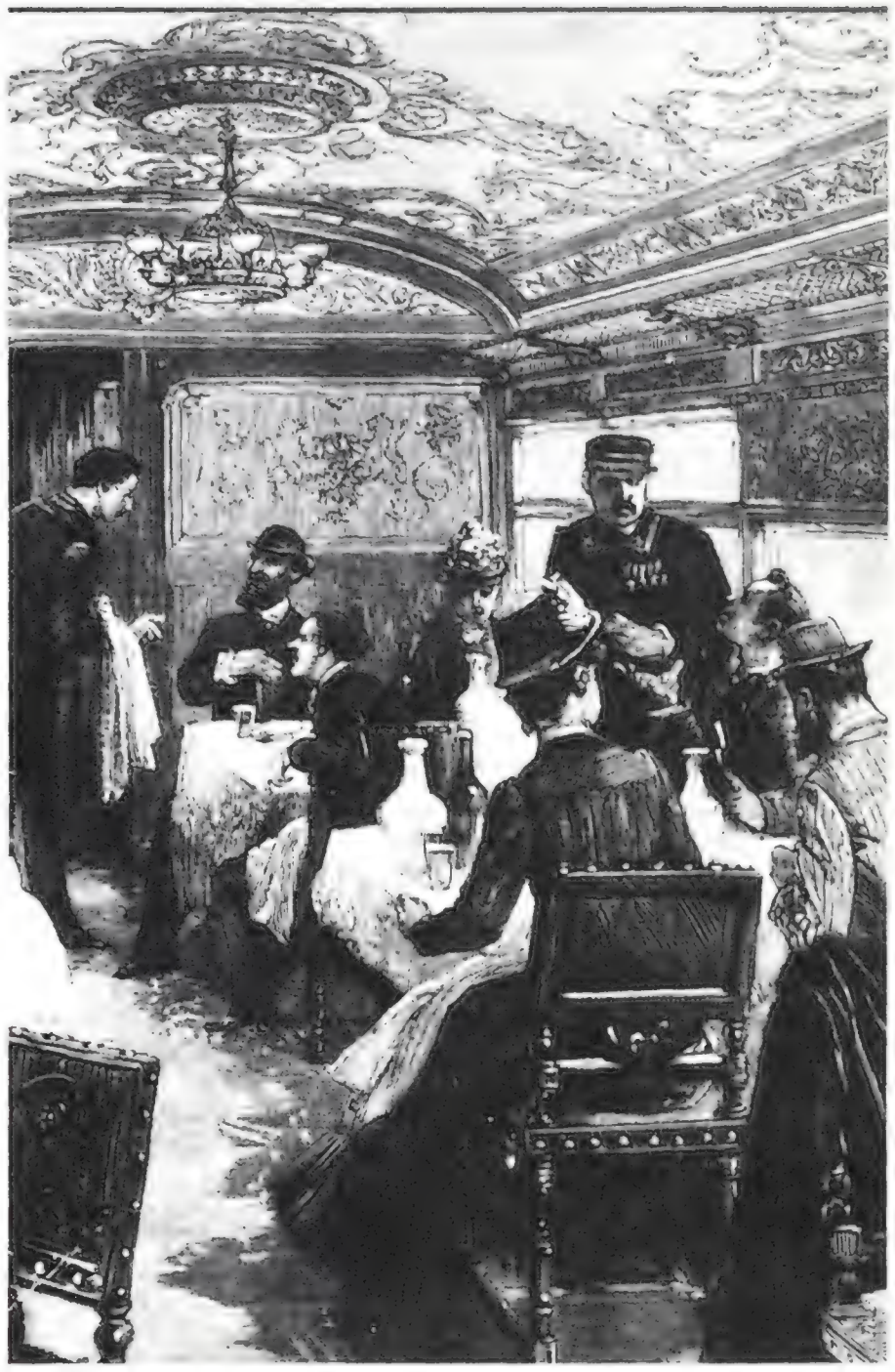
The official inaugural run on October 4, 1883, was a tremendous bit of public relations for the Orient Express, largely owing to the writing of the journalists on board, including novelist Edmond About, who wrote a book about the journey, *De Pontoise à Stamboul* (1884), the first of many about the train.

About was impressed by the sink near his compartment and by the attentive servants. The dining car thrilled him with its heating, ceiling paintings and the finest Baccarat crystal from the famous French factory. One story describes waiters in powdered wigs, tailcoats, breeches and silk stockings (apparently the wigs were abandoned after a passenger complained of powder dropping in his soup).

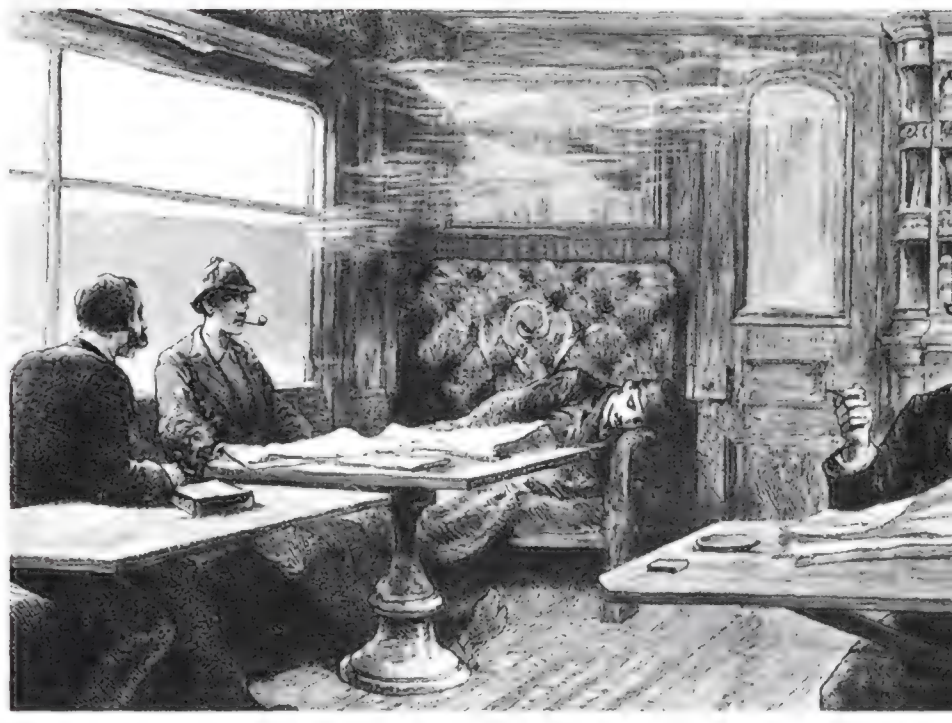
An avid gourmet, About luxuriated in the ten-course meal which ranged from lobsters, oysters and caviar to fish, game and rich desserts. He wrote that the cars rode so smoothly that "not a drop of the champagne and wines was spilled, and the passengers reclined in their *fauteuils* as if they were in a building firmly rooted to the ground." Eleven days from their historic departure, the journalists, emissaries and Nagelmackers returned to Paris to tell their tales of the marvelous train.

From that day onward, the train was a magnificent success and the Nagelmackers empire soon had cars crisscrossing Europe. What was remarkable about this was that the Wagons-Lits company owned no track, merely the cars, which would be pulled by different locomotives as they crossed borders.

Nagelmackers' original concept had been to cater to diplomats, nobility and business magnates, but he also attracted a new breed: the wealthy tourist driven by



In 1883, the Orient Express dining car was first to offer ten-course meals, good service and smooth rides.



Pipe-puffing Queen's messenger rushing across Europe passed time in the train's library and lounge car.

curiosity. The public was intrigued by the remarkable fact that from 1889 on one could take a train from Paris to mysterious Constantinople in just 67 hours and 35 minutes without ever having to change trains.

The original Orient Express route through Vienna was soon supplemented with feeder lines from Berlin and Ostend. But the major change in the train's history occurred a year after Nagelmackers' death in 1905. After eight years of blasting and digging, engineers opened the 12-mile-long Simplon Tunnel through the Alps, linking Switzerland and Italy by what was then the longest railway tunnel in the world. It meant easy access to Milan, Venice and on to Constantinople and Athens. This was the beginning of the famous Simplon Orient Express that officially started in 1919, the route that is followed today by the renovated train. A complex network of "Orient Expresses" covered different routes to the East: the term "Orient Express" is not necessarily one train on one route, as most people tend to assume.

It was a different world then, as Paul Morand, the French diplomat and novelist, recalled in a memoir. The pre-World War I train was filled with "elderly diplomats sorrowfully discussing the 'Eastern Question' and the decline of the Crescent. . . Prince Ferdinand of Bulgaria—not yet a king—often traveled between Sofia and Vienna locked for a few hours in the toilet, anxious to avoid assassins. . . . English 'milords' enjoying the riches of their Empire, clad in tweeds, returning after shooting wild fowl or bears in the Maramuresh and clutching their Holland & Holland sporting guns like mistresses."

A terrible blizzard in 1929 stranded the passengers for days aboard an Orient Express in western Turkey.

November 11, 1918: Marshal Foch (center) received German surrender in Wagons-Lits dining car 2419.

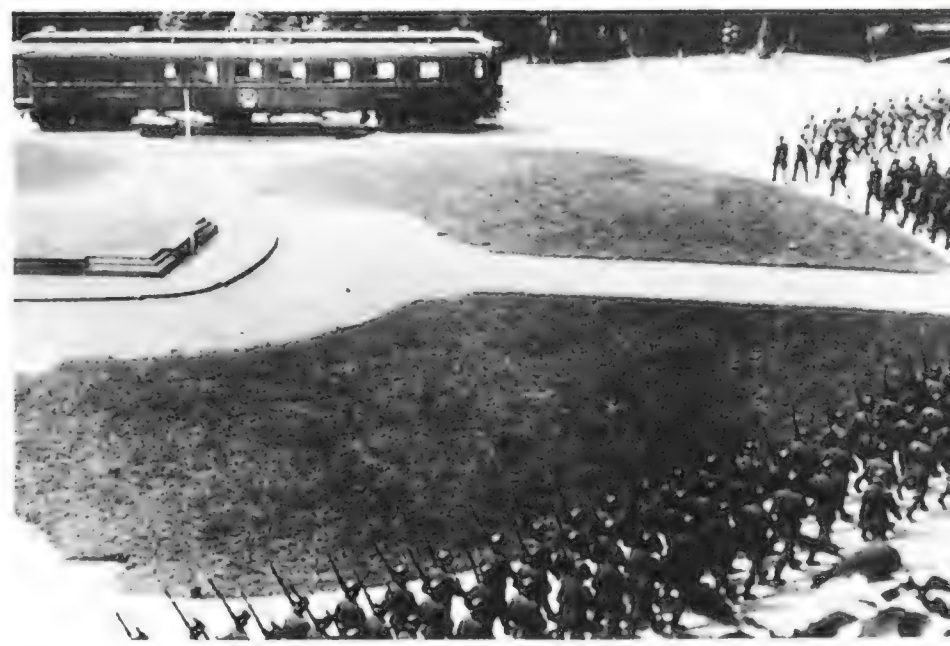
He also recalled the Indian maharajas and their wives in silk saris, praying in their compartments to Vishnu or Allah—a sharp contrast to the few Americans aboard who were "then quiet and well-groomed, like figures from a Henry James story."

For the most part in those early days, the train ran like clockwork with few mishaps. But in May 1891, Greek bandits in Turkey derailed the train, robbed the passengers (their leader chivalrously returned wedding rings) and kidnapped a handful of VIPs. Since there were German bankers among the victims, it quickly became an international crisis. Fortunately the ransom was paid, and the bandit chieftain was so pleased that he gave each of his former prisoners a gold coin.

Given the threat of bandits, many passengers traveled with pistols. But since real occasions to use firearms were rare, some of the passengers found other ways to create drama. One Hungarian aristocrat's favorite pastime was shooting at scarecrows when the train chugged through croplands, but one misty morning he absently fired at a hazy silhouette and later found out he had killed a peasant by mistake. Another time a Slavic courtesan gouged out the eye of a passenger who had shot her pet python; apparently the snake had played an essential dramatic role in her exotic midnight frolics.

World War I cut off train travel between France and Germany, and the Wagons-Lits cars were used for shuttling Allied officials. Car No. 2419 was used by Marshal Foch to host the German surrender in 1918 (above) and was thereafter retired to Les Invalides in Paris.

As the First World War changed European society,



Hitler had car 2419 hauled to precise spot of German surrender to receive French surrender on June 22, 1940.

After the Armistice, the historic dining car was put on exhibition at the military museum at Les Invalides.

so it changed passenger lists of the Orient Expresses. Along with crowned heads, one now found Levantine merchants and rough Greek shipowners, smugglers and spies, famous opera singers and ballet impresarios, American oil engineers and bankers from Vienna who would bribe the *contrôleur* to seat them next to "that lovely countess at the next table."

A passenger list of the early years would read like a *Who's Who of the World,* from art to politics. Sarah Bernhardt and her Italian counterpart Eleonora Duse used the train to thrill the stages of Europe. For musicians there were Toscanini and Mahler. Dancers Nijinsky and Pavlova were there, while lesser performers like Harry Houdini and the girls of the Ziegfeld Follies also rode the rails. Violinists were allowed to practice on the train, and occasionally one might see trapeze artists hanging like bats from the baggage racks.

Isadora Duncan's unconventional dancing onstage was just a tad less shocking than her attire aboard the train. One conductor recorded that when she pranced from her own compartment to the shower she was dressed in "much less than a veil—rather, something in the size of a handkerchief, and in the wrong place, too."

For some years a few conductors made a nice profit providing girls for the discriminating gentleman, often by telegraphing ahead from one station to another. Among the most scandalous sinners was an Eastern Orthodox bishop who would almost weekly sample the *poules de luxe* by getting on at Sofia, having his pleasure and disembarking at Belgrade.

Nearly every crowned head of Europe seems to have used the train at some point in his or her life; the Royal Families were closely related. Edward VIII was a regular passenger as the Duke of Windsor. After his abdication he took an Orient Express route to Vienna to pass some time in seclusion at the estate of Baron Eugène de Rothschild. He was given a private car where he took his dinner alone to avoid reporters. The *contrôleur* at the time, Roger Tibot, recalled that the Duke ate half-heartedly. "It was a sight that rent my heart," recalled Tibot, who earlier had been honored to serve him in the royal car.

Surely one of the most peculiar romances in the Orient Express' annals involved the mysterious munitions tycoon Sir Basil Zaharoff. It has been said that of the ten million casualties in World War I, each dead soldier meant another English pound of gold in this man's pocket. But the love story begins in 1886 when Zaharoff, an ambitious young man in his 30s, was on his way to board the Orient Express in Paris. Zaharoff, so the story goes, was annoyed when the conductor informed him that the train would be held up. Even the fact that the late arrivals were a honeymooning couple with close ties to the Spanish throne did not impress him, and he angrily demanded to be shown to his favorite compartment, No. 7. As the carriage from the Spanish Embassy drew up, Zaharoff had a look at them through his window: the 24-year-old Duke of Marchena was an unimpressive young man of royal Bourbon blood; inbreeding was already showing in his

Author Barnaby Conrad III is a former senior editor of Horizon *magazine. He currently lives in Paris, where he is working on a novel.*

Famed courtesan Mata Hari (c. 1905) was executed by the French after her conviction as a German spy.

weak, unstable demeanor. His 17-year-old wife had a nubile beauty, but appeared distressed. Long after midnight—2:32 A.M. Zaharoff would later reckon precisely—there was a frantic knocking at his door. When he undid the lock, the young Duchess of Marchena fell forward into his compartment. She was clad in a flimsy peignoir and torn nightgown. There was a bloody scratch across her throat and she gasped with fright, "Please save me! He is mad . . . mad! He will kill me!" Outside in the hall Zaharoff's bodyguard was wrestling with the crazed Duke, who brandished a dagger, ranting insensibly. A moment later he dropped to the floor.

Zaharoff did save her and, while the mad Duke languished in an asylum, the young Duchess Maria became his mistress, much to the consternation of the Spanish court. The one-time uncouth arms dealer softened under her touch, but also profited from the calamities of the world. He became a respected financier and was made a Knight of the British Empire. Maria bore him three daughters out of wedlock. Finally, after the Duke's death, they were married.

But their happiness was short, for Maria died just two years later in 1926. Ten years later, Zaharoff himself died and, following his orders, his loyal bodyguard boarded the Orient Express at Gare de l'Est and checked into Zaharoff's old compartment No. 7. In an envelope was the photograph of Maria that Zaharoff had carried in his wallet. As the train neared Salzburg, the bodyguard checked his watch and followed the instructions: at precisely 2:32 A.M. he tore up the photograph and scattered the pieces out the window.

Fertile route for spies and pseudospies

The Balkan countries were a hotbed of intrigue and plot-hatching, and the Orient Express was a favorite haunt for spies. The most legendary was Mata Hari. Born in Holland as Margaretha Geertruida Zelle, she married a Dutch Colonialist and spent several years in Java and Sumatra. Her marriage soon ended, and she left for a life in Paris. As a dancer she combined Oriental dance movements with a touch of her own—nudity—and soon became the rage of Paris. As a courtesan, she is said to have counted among her admirers French ministers and, unfortunately, high-ranking German military officers. When a spy mania hit war-torn France, she was arrested, tried and executed by a firing squad in 1917, although some now feel that her "secrets" were little more than the passing of idle gossip.

Real spies did frequent the Orient Express because it was the fastest link with the Eastern countries. According to one account, Sir Robert Baden-Powell, better known for founding the Boy Scouts, used the train and drawings of butterflies to disguise his real activity, described in his memoir, *My Adventures As A*

President Deschanel resigned after late-night fall off train.

Rumor was that Cléo de Mérode had affair with Leopold on board.

During the liaison, Leopold II was widely called "Cléopold."

Spy, in 1915. When Baden-Powell boarded the train, he looked every bit the eccentric tweedy British entomologist. But his notebook sketches of butterfly wings depicted imaginary insects; within the colorful wing patterns were disguised diagrams of fortifications.

As World War II began, spies crossed paths with more intensity on the Orient routes. Michael Mason, a one-time naval boxing champion, described how, as a British intelligence agent assigned to Romania, he had been forced to dispose of two German agents: "Two fellows followed me into the dining car and watched me for half an hour or more," Mason recounted. "I'd let them think I'd drunk a lot but most of my wine went on the floor. I knew they'd be waiting to jump me in the corridor and there they were. I hit one under the heart and one in the jaw and out they went. I beat them insensible and threw them off."

During the war, the Simplon Orient Express was curtailed, but the Germans kept a kind of ersatz Orient Express running through Germany and eastward, which was used for the most part by high-ranking S.S. and Wehrmacht officers.

After the French defeat in 1940, Hitler took possession of the Wagons-Lits Car No. 2419, which Marshal Foch had used 22 years earlier to receive the German surrender. Hitler humiliated the French by forcing them to surrender in it. He immediately shuttled it back to Germany. As Allied troops advanced in 1945,

Basil Zaharoff and Duchess of Villafranca were married 38 years after a harrowing introduction on train.

Alfred Hitchcock's *The Lady Vanishes,* filled with intrigue and spies, replicates atmosphere of the train.

Tatiana Romanova waits for Agent 007 in a train sleeping compartment in film *From Russia with Love.*

Poirot (Albert Finney) gathers his murder suspects on snowbound train in *Murder on the Orient Express.*

Hitler apparently ordered it destroyed so as to deny them the pleasure of recapturing it.

The most famous—or infamous—French president ever to ride in a Wagons-Lits car was the hapless Paul Deschanel. On May 23, 1920, he left Paris with his staff for Montbrison. The next morning at breakfast, it was discovered that the President of France was not on the train. To this day no one really knows why it happened, but in the middle of the night the 65-year-old Deschanel must have opened the wrong door and fallen out. Bruised beyond recognition and clad only in his pajamas and a single slipper, the statesman stumbled along the tracks until he reached a hut and awakened a grumpy railroad man. "I am the President of the Republic," he stammered. "Oh, really?" replied the skeptical fellow. "Well, then I must be the Emperor Napoleon."

It was a political scandal that the press just wouldn't let go of. Had the president been drinking? Or was he mentally unstable? Deschanel stood the badgering for just four months before resigning.

Regal blue and gold: the real *Express*

Nowadays a trip on the Express, though apt to be less eventful, is still a luxurious experience. We disembarked at Boulogne after an uncharacteristically smooth Channel crossing, passed painlessly through customs, and train manager Pegler escorted us aboard the continental train. Metal-sided cars in their regal blue-and-gold livery stood before us. This continental train was, to me, the *real* Orient Express that Agatha Christie and so many others immortalized.

Led to my own sleeping-car compartment, I was fascinated to learn that each car had a different history and was specially designed. For example, mine, sleeping car No. 3544, was built in 1929. The years 1929-31 saw it serving the Pyrénées-Côte d'Argent Express, while the next year it went to the Train Bleu; during the Great Depression it was out of service, and then it hooked up with the Rome Express for a year in 1938—before World War II sent it to the sidelines to serve as a rather unusual brothel in Limoges. It was not until 1949 that it reached the Simplon Orient Express, where it spent 20 years.

Within minutes in the piano-bar car I had met my fellow passengers: an executive with the New Jersey telephone system; a rather jolly middle-aged Englishman and his wife; an electronics millionaire from Silicon Valley, California, and his wife; four unescorted homemakers from Birmingham, Alabama ("We like to travel in coveys," one drawled); a French count who was celebrating his 25th birthday with his Brazilian girlfriend; and five Japanese businessmen. But the person I liked best was the woman who had left her

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GM

Let's get it together... buckle up

Original panels designed by René Lalique, Bacchanal figures were restored for the dining car of VS-O-E.

Impeccable service continues in 1926 dining car where marquetry panels have been painstakingly recreated.

husband and nine children back in Fort Dodge, Iowa, for a little adventure on her own. After a few glasses of champagne she confessed that not only had she read *Murder on the Orient Express,* but she'd brought along a red kimono. "You know how the detective saw the woman walk down the corridor in the red kimono? Well," she confessed conspiratorially, "I'm going to set my camera on a self-timer so I can take my picture wrapped in that red kimono. Tonight."

From stage set . . . pouf! . . . *to reality*

At dinner there was a festive air and plenty of toasts. An elderly gentleman and his wife sent a bottle of wine over to a young honeymoon couple from Australia. His reason? "I'm Australian and I took this old Orient with my wife in 1933."

What was the train's attraction for so diverse a crowd of people? A young filmmaker, surveying the scene, a Cole Porter tune tinkling away above the laughter, said to me: "It's a very real stage set on wheels; they're all actors allowed to play any part they like for one night. Then . . . *pouf*! Back to reality."

Novelists and filmmakers, of course, have always been attracted by that stage-set quality. Agatha Christie's famous novel appeared in 1934. She brought together an assortment of characters who would shortly become suspects in the murder of an American tycoon named Ratchett. And before the culprit could escape by jumping off, the author enveloped the train in a severe snowstorm.

The great advantage of a train from a novelist's point of view is well described at the beginning of Agatha Christie's novel when detective Hercule Poirot and an Orient Express official exchange a few words in the dining car:

> "Ah," he [M. Bouc] sighed. "If I had but the pen of a Balzac, I would depict this scene."
>
> "It is an idea, that," said Poirot.
>
> "Ah, you agree? It has not been done, I think? And yet—it lends itself to romance, my friend. All around us are people, of all classes, of all nationalities, of all ages. For three days these people, these strangers to one another, are brought together. They sleep and eat under one roof, they cannot get away from each other. At the end of three days they part, they go their several ways, never, perhaps, to see each other again."

The blizzard that became a literary device in the Christie novel actually occurred in February 1929 during one of the hardest European winters of the century. Ignoring weather warnings in order to keep on schedule, the eastbound Orient Express was trapped near Çerkeşköy in western Turkey in a giant snowdrift. For

nearly a week it was out of touch with the civilized world. One story claims that while the passengers suffered from frostbite and nearly starved, the valiant Orient Express staff carved a tunnel through the ice, tramped to a village several miles away and, after repelling a pack of hungry wolves, returned with enough food to keep them going until rescuers came.

Murder on the Orient Express became a movie in 1974—a kind of cinematic swan song from Hollywood director Sidney Lumet, who overloaded the train with the likes of Sean Connery, Sir John Gielgud, Ingrid Bergman, Lauren Bacall—and Albert Finney as the Belgian detective Poirot (p. 66). But even as millions saw it on the silver screen, the train was bowing out of real life owing to competition from airlines and a world that did not seem to have time for rattling rails.

In 1977 when Sotheby's auctioned off five classic railroad cars from the Orient Express, there were only three serious bidders, including James Sherwood, president of the Sea Containers Group. Sherwood bought two cars and started a stable of 35 Pullmans and Wagons-Lits that became the rejuvenated Venice Simplon-Orient-Express. On May 25, 1982, a magnificently restored 17-car train pulled out of Paris' Gare d'Austerlitz bound for Venice. Now the train operates three times a week from London to Venice, and carries more than 30,000 passengers a year in a manner that is literally from another age. One of several other "Orient Expresses" now running is the Nostalgic Istanbul Orient Express, which follows the original route from Paris to Istanbul, and will operate several times during 1984.

As the train pulled into the Venice station, I realized that I did not want to get off. Despite the lure of Venice, I was still locked into the embrace of the time machine. Then, I slowly bid adieu to the train Nagelmackers, King Leopold, Agatha Christie et al had created, and disembarked.

This poster for old-time musical comedy depicts hijinks among passengers aboard the Orient Express.

In earliest days of route, the travelers tended to be more sedate: elderly diplomats and English "milords."

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By William Weber Johnson

California condor: embroiled in a flap not of its making

Amid wrangling between exponents of captive breeding and those who advocate hands off, four chicks hatched from wild eggs in San Diego

In becondored mask with distinctive wing markings, Dana Gardner sold T-shirts at a Condor Watch.

They are not as swift and daring as the peregrine falcon nor as fiercely handsome as the bald eagle, nor nearly as romantic as either of these predators. They are not predators at all, being unable to catch or kill. They can't sing and dance like the whooping crane. As threatened species go they are all but unequaled in their capacity to stir up dissension and controversy—federal bureaucrats against federal bureaucrats, state authorities against the federals, zoological society against zoological society, business and banking interests against the environmentalists, and environmentalists bitterly divided among themselves.

The creature in question is *Gymnogyps californianus*, the California condor, a red-headed vulture weighing 20 or so pounds, with the largest wingspread in North America—nine or more feet. There is evidence now for no more than 20 left in the wild, and in recent years the population has been dropping by two each year. Few eggs are produced and only half of them are hatched and fledged. By sometime in the 1990s they could be as scarce as the saber-toothed cat, the dire wolf, the woolly mammoth and their other erstwhile neighbors of the Pleistocene.

The hope of forestalling such an end has sharply divided serious scientists and conservationists. Both schools are dedicated to the condor's survival but are opposed as to means—each regarding the other's methods as foolhardy if not disastrous.

The condors once ranged from British Columbia to Baja California and across to Texas—fossils have been found as far away as Florida—but are now compressed into a V-shaped patch of California, not far north of metropolitan Los Angeles.

Their feathers are a glossy black, the eyes a brilliant red. The birds like to bathe, and preen continually. They are carrion eaters, artisans of one of nature's ways of converting dead flesh to living tissue. Heads and necks are bald, a hygienic adaptation to the bird's dietary habits, as they feed in the interior of dead carcasses. There is a ruff of black feathers at the base of the neck.

The most distinguishing marks are snowy white triangles on the underside of each wing, obvious only in flight. Hoppers and waddlers on the ground, they are magnificent in the air, soaring on thermal currents and onshore breezes up to 15,000 feet and then riding down the wind on motionless wings at 50 to 80 miles per hour. Primary feathers rotate and adjust to the air currents when drifting to prevent stalling (p. 75). The wind whistling through their pinions is audible at a distance and suggests the sound of surf on a sandy shore or wind in tall pines. The sight of this big bird provides a glimpse into the beginning of the world we know and is a sharp reminder of how Man has diminished it.

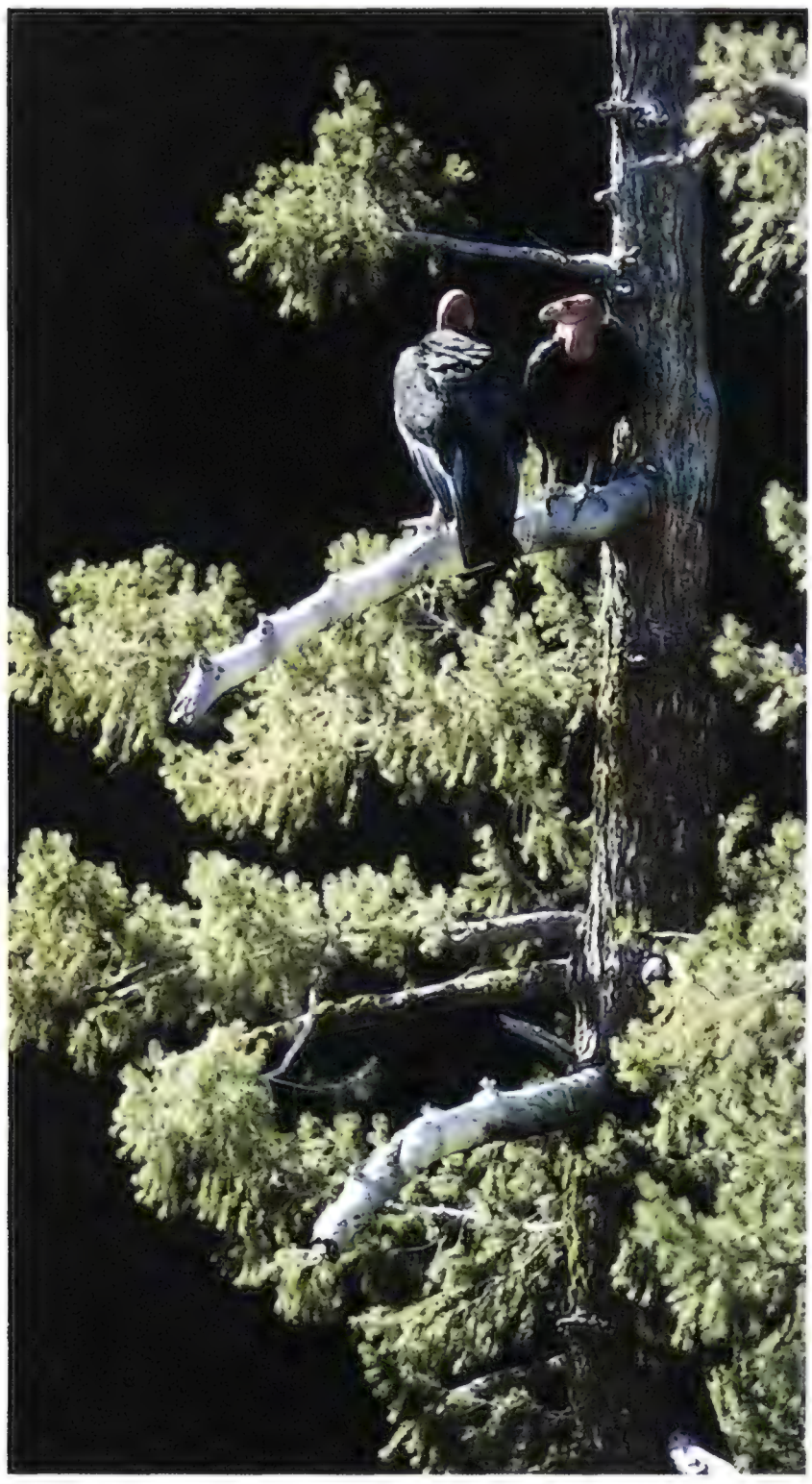
Each August a group of several hundred persons

Los Angeles Zoo's first captive California condor, Topatopa, now has been joined by three wild birds.

gathers at the 8,831-foot summit of Mt. Pinos in the Los Padres National Forest. Most of them carry binoculars or telescopes, cameras with telephoto lenses and a full charge of strong convictions regarding ecology and the environment.

Here the air is sparkling clear and clean. A cool breeze riffles patches of multicolored lupine and Indian paintbrush, the Jeffrey pines murmur softly.

The watchers—biologists, zookeepers, academics, journalists and just plain nature lovers—scan the sky, hoping to see one or more of the few California condors remaining in the wild. At 10:57 A.M., Dr. Michael Fry of the University of California, Davis, sings out "Condor!" All other binoculars swivel around to match Fry's. There are cries of "Yes . . . oh yes!" and "There he is!" The annual event is part celebration of survival and part prayer meeting for the bird's continued existence.



Breeding pair of California condors favors this sunny snag for respite from chores at nearby nest.

Some reasons for the condor's decline:

- Reduction of habitat. For centuries the condor lived with aboriginal peoples in comparative security. The Chumash Indians regarded the birds as supernatural; the Tlingit thought they were in charge of thunder and lightning. But as the white man advanced, the condor's range was sharply constricted.
- Gunners who shoot at anything with fur or feathers. The condor is protected but there have been frequent shootings—and only one conviction, with a $50 fine.
- Human aberrations. During the California Gold Rush the '49er who was lucky proved it by wearing his gold dust corked in a condor quill on a thong around his neck. Condors were, naturally, killed to get them.
- Collecting of exotic eggs, a widespread Victorian hobby. Condor eggs brought as much as $300.
- Sheepherders. There is a mistaken notion that condors carry away baby lambs.
- Oil, real estate and other business interests. Extraction of known mineral deposits and exploration for more put pressure on the condor's territory, although there are legal restrictions on drilling in proximity to known condor nesting sites. Also, the scenic highlands in which condors forage are infinitely attractive to dwellers in coastal cities and the San Joaquin valley.
- Various man-made poisons. DDT, until it was banned, had a shell-thinning effect on the condor's eggs. The effect of Compound 1080—used to kill small mammals on whose carcasses the condor may feed—is still being debated. And carcasses of animals shot by hunters introduce lead poisoning.
- Feedlots, which have reduced the supply of cattle carrion once available to condors on the open range.
- Hazards such as power lines and oil sumps.

At last, a sanctuary for condors

Almost half a century ago efforts were being made to halt the condor's headlong plunge toward oblivion. The U.S. Forest Service announced plans for a road through Sisquoc Canyon, a rough and wild area in the Los Padres National Forest and a known retreat of the big birds. A condor-minded rancher, Robert Easton, organized opposition to the move and got the aid of the National Audubon Society.

The Forest Service ceded 1,200 acres of the canyon, including a waterfall, to the condors, banning all human travel in and use of the area. As sanctuaries go it is small; someone said "it would be a tight fit for hummingbirds." But it was a beginning, later augmented by the 53,000-acre Sespe Condor Sanctuary.

In 1939 Audubon funded a thorough study of the

When shifting incubation duty, a breeding pair soars with infinite grace. One bird then goes off to forage.

surviving condor population by the late Carl B. Koford, who estimated 60 remaining condors, including 20 breeding pairs. He thought condors would be in no trouble without mankind's encroachments.

Then, the world-famous San Diego Zoo was doing interesting things with Andean condors, somewhat larger cousins of the California bird. When a captive pair of Andeans laid an egg which was removed for artificial incubation, the nesting pair would produce another egg. This is known as double clutching. Through both artificial and natural incubation the zoo produced nine young Andeans in the 1940-50 decade.

Permission was given the zoo by the California Fish and Game Commission in 1950 to begin captive breeding of California condors, but was revoked when Audubon and local conservationists objected strenuously. (Audubon was later to reverse itself.) The condor population continued to shrink; by the mid-1960s it was estimated at only 40.

And then another crisis arose, the proposed construction of an $89-million dam, reservoir and recreation complex within a few hundred yards of the Sespe Sanctuary. A road would cut directly through the refuge, and a fierce battle ensued. Proponents of the dam referred to the condors as "forty dirty black birds, flying garbage cans"—and argued that they should be gathered up and locked in zoos, out of the way of progress. There were rumors that if any "sportsman" cared to shoot condors and was arrested for it, there were funds available to pay his fine.

A bond issue for the dam was voted down by only 36 votes out of almost 15,000 cast. The margin matched the best estimate of the then-surviving condor population, and there were jokes about condors voting.

Two schools of thought developed regarding the condor's future. One: if habitat were restored the decline would be halted and the population would recover.

The other: given the condor's death-or-disappearance rate and low reproductive capabilities, the only salvation lay in careful preservation of what is left of the wild population and a captive-breeding program to produce young condors that would, in time, be returned to the wild.

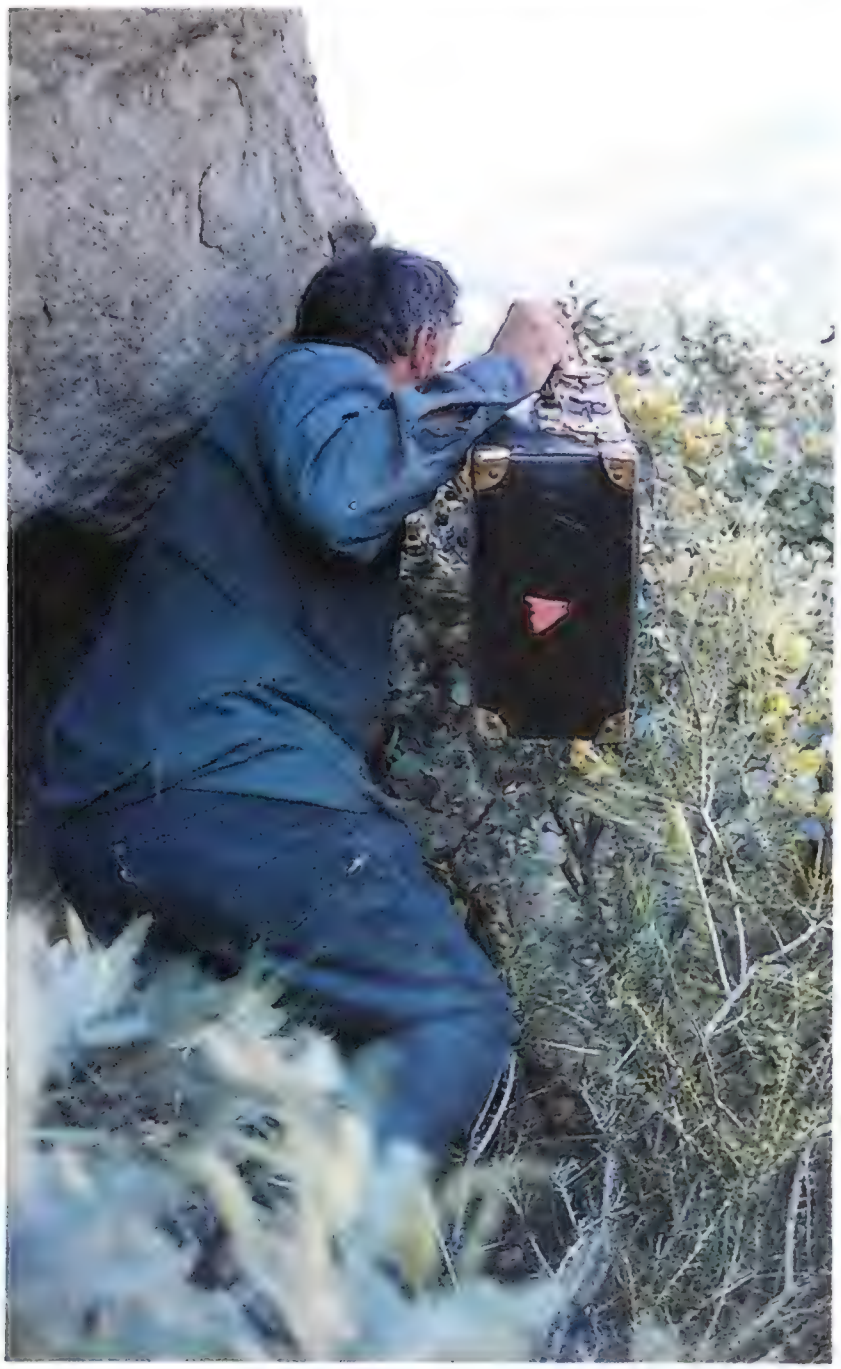
There was one California condor in captivity. In 1967 an immature male had been found in Matilija

Two-month-old wild chick thrusts its head into male parent's throat, swigging partially digested food.

If rappelling researcher finds eggshells in hatching cave, site receives legal protection against oil drilling.

In 1980 this chick was six weeks old when examined, weighed and measured; it still lives in the wild.

With incubator suitcase cradling egg taken from bickering parents, Noel Snyder heads for helicopter.



Canyon in the Los Padres National Forest, weak and abandoned. It was taken to the Los Angeles Zoo and nursed back to health, with one unsuccessful attempt to return it to the wild. Topatopa—named for Topatopa Peak—has remained in the zoo, a big, lonely bird. The hope of providing a mate for him has been one factor in what has happened since.

By 1979 the extinction of the California condor within the next decade or so was almost certain. Congress appropriated funds for a last-ditch effort to preserve it. The Audubon Society pledged $500,000 and the Fish and Wildlife Service $750,000 to a program to be carried out in collaboration with other federal and state agencies. By March of the following year scientists were appointed, headquarters were set up at Ventura, California, and experts were in the field; the Condor Research Center was in operation.

The FWS Patuxent Wildlife Research Center in Laurel, Maryland, had been raising Andean condors in captivity, as had several zoos. If these could be returned to the wild it might point the way for the rescue of the California condor. Six young Andeans from Patuxent and five from the Bronx Zoo were taken to the Sechura peninsula of northern Peru in 1980. In a carefully thought-out and cautiously executed program the 11 were taught to mingle with native condors, finding the same food resources. They were radio tracked with solar-powered transmitters mounted on their wings. Seven survived and became indistinguishable from their native kin.

This was one of the strongest arguments in support of the proposed captive breeding of California condors. But the codirectors of the Condor Research Center, Dr. Noel Snyder for the Fish and Wildlife Service, and John Ogden for the National Audubon Society, knew that if a captive-breeding program were to succeed, there must be a viable wild population into which the birds could be introduced.

Snyder and Ogden assembled a group of dedicated professional and amateur ornithologists. Condor flight patterns were traced, condor sightings were tabulated and a close watch from blinds was kept of the few known condor egg-laying sites—hardly nests, for the big egg is laid and incubated on the stony or earthen floor of caves in steep canyons and on hillsides. Male and female take turns sitting on the egg, and in trying to turn it may break it on the hard, rough surface.

But, luckily, some chicks survive. The condor researchers began making tests and measurements. In the summer of 1980 one chick was examined, measured and weighed, eggshell fragments and molted feathers collected. Three biologists worked at the task. The next nest was comparatively inaccessible, a narrow ledge on a sheer cliff face. Only one biologist had rappelling experience and he descended to the ledge. The first chick, weighing only seven pounds, was easily handled. This one, almost twice as large and hard to handle, struggled when weighed. Then, while wing and bill lengths were being noted, the bird died of stress.

An uproar over captive breeding

Its death received widespread publicity and infuriated all the "hands-offers," those who opposed any direct human contact or experimentation, notably the San Francisco and Monterey chapters of the Audubon Society, the Friends of the Earth and some members of the Sierra Club. Huey Johnson, the director of the California Resources Agency, denounced the researchers for treating the young condors "like a cage full of chickens." The state Fish and Game Commission, whose cooperation was essential, began to drag its feet. Plans for cannon netting of adult condors, installation of telemetry and radio tracking, and the taking of both eggs and young condors for a basic captive flock, appeared to be finished—and the Condor Research Center came under heavy sniper fire from opponents.

Still, Snyder and Ogden took off on a long-planned trip, first to South Africa to observe cannon-netting techniques, and then to Peru for the Andean-condor-release program.

In June 1982 a nest watcher reported that one parent of a condor chick had not been seen for nine days, nor the other for nearly three. Since the young are dependent upon food regurgitated from the parents'

Contending for bait at cannon-netting site, condor (top, left) challenges a golden eagle, who leaves. Startled when net is fired (center), the condor tries to make a run for it, is trapped uninjured (bottom).

crops (p. 75), usually dispensed daily but sometimes at two-or-three-day intervals, it was determined that this chick was in a potentially hazardous situation if the parents' erratic behavior continued. Dr. Philip Ensley, veterinarian at the San Diego Zoo and an enthusiastic worker in the condor program, hiked in to observe. The parents reappeared but disappeared again for five days, and permission to remove the chick was requested and granted.

Ensley was pleased but nervous. He was used to handling wild creatures at the zoo and has strong, gentle hands. But he was also keenly aware of the problems caused by the fatal handling of a chick two years before. "I knew," he recalled, "all field studies could be halted and, more important, so could the captive-propagation program, the only way we had left to save this species."

The capture was planned for early morning, August 13, 1982. A helicopter brought in the capture crew, headed by Noel Snyder. From the chopper landing site Ensley carried in an airline kennel and a pack of medical supplies. The chick, meanwhile, had come out of the cave and was perilously close to the edge; a false move could send it tumbling down the cliff. Snyder, tapping the earth with a yucca stalk, herded the youngster back toward the cave. Ensley, moving carefully, approached the crouching chick and gently pressed its wings to its body. Within 15 seconds, he had it secured in the kennel.

He noted that the chick seemed to be healthy, and while it grunted and hissed at its captors, it did not regurgitate, as many vultures do when alarmed. The kennel was packed out of the canyon, loaded into the helicopter and taken first to the San Diego Zoo's Wild Animal Park for observation. Later it was transferred to the Los Angeles Zoo. Blood tests disclosed the chick to be a male. This was a disappointment, but the capture was, nevertheless, a milestone.

The next successes were to be achieved with a cannon net and bait. The system had been used extensively in South Africa and the technique perfected in California on turkey vultures. A 50-by-50-foot net is folded in accordion pleats, one side anchored in a shallow trench, the flying edge attached to small sash weights placed in four small "cannon," really just short tubes. Each tube is armed with a blasting cap and all four are discharged at once. The net sails out at a 45-degree angle, extends fully in a second or so.

Four condors were finally taken by cannon-netting in the fall of 1982. One immature was captured October 12. It was held for three days for sex determination (male), then equipped with solar-powered transmitters and released. The following month two adults, a male and a female, were taken. The male was equipped with transmitters and the two were then released; state regulations prohibited the tagging or keeping of the female in what might be a breeding pair. Then in December another immature male was taken. In questionable condition, he went to the Los Angeles Zoo for care and ultimate placement in the captive-breeding stock.

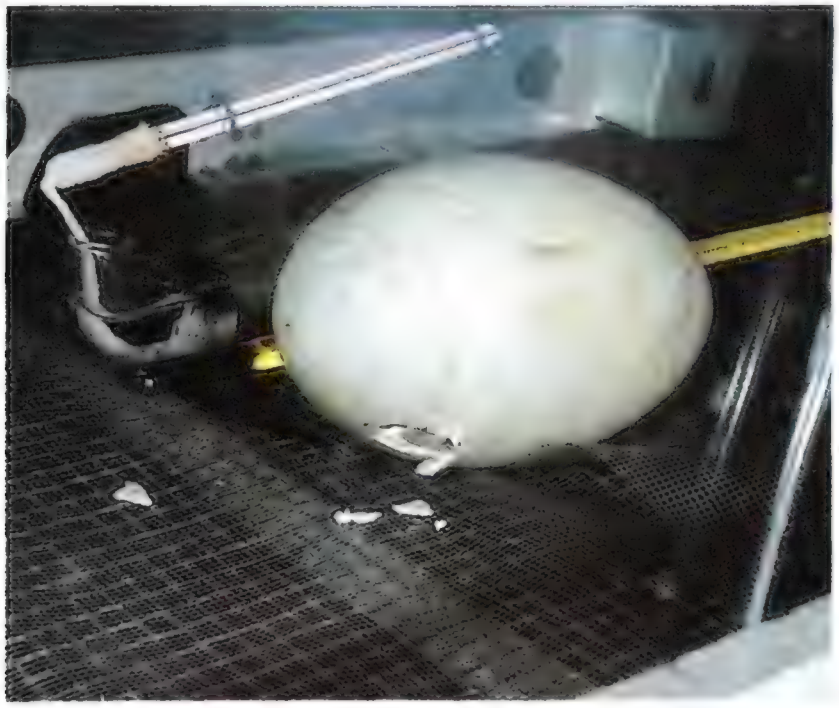
New information from telemetry

The radio transmitters on the two birds began to provide a wealth of information about the condors' flight patterns, range and roosting places. A popular gathering place for immature condors was pinpointed, as were, immediately, 13 hitherto unknown roosts.

Then last spring, the biologists, with all the requisite permissions, began gathering condor eggs for captive incubation. Four eggs were taken and, with utmost care, delivered to the Avian Propagation Center of the San Diego Zoo, where a team of technicians had been carefully rehearsed in procedures. Ideal temperature and humidity were maintained in specially constructed incubators. Close watch was kept for the first sign of pipping—the chick beginning to chip at its shell. Once pipping began, the technicians, under close observation of Dr. Arthur C. Risser, Curator of Birds, Dr. Ensley and Condor Keeper William D. Toone, helped chip away the shell in small pieces, spraying the emerging chick with a mild saline solution to help free it from the membrane. Once the chick was free, it was cleaned of remnants of the membrane, the yolk seal treated with germicide, and then placed in one of the isolettes (sterilized chambers designed for premature babies) donated by San Diego hospitals.

Sisquoc was hatched March 30; Tecuya April 5;

The author, who is a San Diego writer and frequent contributor, last appeared in SMITHSONIAN *in July 1983 with an essay on the Bulwer-Lytton Fiction Contest.*



After incubating 36 days at zoo, Sisquoc decided the time had come, began pipping his way from shell.

Sisquoc's sibling, Sespe, had trouble emerging from shell, received a gingerly assist from Cyndi Kuehler.

Sisquoc with one of the two puppet surrogate parents that fed, preened, cleaned and squabbled with him.

Topatopa bares tongue, showing its construction, serrated for rasping shreds of meat from carrion.

Sespe May 25; and Almiyi May 27. Subsequent chromosome tests proved Sisquoc to be a male, the others female. Fed skinned mice and portions of regurgitated food harvested from the crops of turkey vultures, the chicks soon began gaining as much as 14 percent of their weight daily. At the age of six months Sisquoc weighed 20 pounds and had begun to fly.

The captive hatching had proved that, given the right conditions, there could be 100-percent success with condor eggs, as contrasted with 50-percent mortality in the wild.

Another objective of the egg-taking program was to learn if the wild California condor would double clutch, as the captive Andeans were known to do. Normally one egg is produced every other year. One year's chick is still in the nest during the following breeding season, still dependent on the parents, and there is no breeding until the year after that. If the single egg is taken for captive hatching and the mating pair double clutches, and then this second egg or the resultant chick is taken into captivity, the mating pair is freed to lay another egg the following season; if this egg too is taken and a replacement is laid it means that the normal chick-every-other-year rate is quadrupled.

The 1983 egg-taking proved that California condors are capable even of triple clutching. The parents of Tecuya laid a second egg, broken in the nest. Then a third egg was laid; a chick hatched from it in July.

One more chick was added to the captive flock in 1983. Early in August it was learned that there was a chick in a very precarious cliffside nest, out of which it might tumble at any time, and a black bear was trying to reach the nest. Once again Dr. Ensley was called in. He, Snyder and Toone captured the threatened chick. It also went to Los Angeles.

The captive flock now stands at four males, three females and one undetermined. The birds now on hand are expected to be a captive flock for life, the young ones ready at about age seven to produce progeny for return to the wild. But researchers hope that eggs and nestlings taken in 1984 and subsequent years, once they have been hatched and successfully fledged, will be returned to the wild as soon as feasible. Insofar as possible, all the young condors are protected from the sight of humans. They are not on public exhibition. Their keepers monitor them from blinds. During infancy they are fed and preened by condor puppets—all this to avoid the imprinting that made Topatopa incapable of returning to the wild.

Noel Snyder, the FWS codirector of the project, is cautious. "We haven't won yet. It's like someone who has been at death's door. We've managed to get him onto a stretcher and into an ambulance. Now he is in the emergency room."

The critics of the program are unyielding. Ian McMillan, a rancher-conservationist and veteran condor watcher, concedes that much impressive expertise is being brought to bear, but asks: "Will these artificially propagated condors be real condors?"

Dan Murphy, president of the Golden Gate (San Francisco) chapter of the Audubon Society, insists that allowing further capture of wild birds, and the taking of more eggs from nests, "is simply going to deplete the next generation of reproductive birds to the point where there's going to be very little chance of success in the wild."

But among most scientists there is little disagreement about this last-ditch effort to save the bird.

Says Ed N. Harrison of the Western Foundation of Vertebrate Zoology: "We humans created the problems for the condors and it would be criminal for us to sit by and allow the species to die."

And there are flippant comments. From one of the nest-watch sites field biologists sometimes go to a tavern on a state highway to use the pay telephone. One of them, after making a call to the research headquarters in Ventura, paused for a cold soft drink.

A lady beer drinker pointed to his arm patch and said "You're one of those condor fellas, huh?"

He admitted that he was.

She took a pull at her beer and continued: "Well, it's a good thing you weren't around when we still had dinosaurs. We'd be up to here in them monsters."

Grave, downy and splay-footed, Sisquoc at two weeks peers from a secure corner; lineage dates to Pleistocene.

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Union men burned old car to dramatize claim that magnate Schlumpf spent company money on hobby.

By Rudolph Chelminski

Driven into exile, a museum founder maps return trip

While Fritz Schlumpf's spectacular collection of vintage European autos is a big hit in France, something important is missing: Fritz

In the frigid predawn hours of March 7, 1977, a band of 14 men cut their way through a chain-link fence surrounding the brick walls of an old wool-spinning mill at the northern edge of the French industrial city of Mulhouse, a few miles from the Rhine and the historic Swiss university town of Basel. Quickly overpowering the night watchman, the intruders grabbed the keys to the building and phoned across town to the main body of their confederates: 200 unemployed workers, trade-union militants like themselves. Within a quarter of an hour they were all at the factory gates in a caravan of buses.

Grouped now, the raiding party climbed a few steps to gain the building's entry hall and moved forward in the dim glow of weak night lamps as members of the avant-garde fumbled at the electrical switch box for the right levers. At length they found them, and the result was like one of those rare moments of discovery that folklore assigns to Pharaonic tombs. It wasn't just lights that flashed on: seemingly endless rows of colonnaded *lampadaires*, inspired by the marvelously ornate Belle Epoque illuminations of the

Alexandre III bridge in Paris, suddenly leaped out from the penumbra, marching in rectilinear precision to a point of convergence 160 yards away (pp. 86-87).

Above the lamps were immaculate white beams and roof slabs, broken by the building-length slashes of glass common to factory roofs everywhere, all of them as clean as an Alsatian parlor on a wedding day. The effect was impressive and unexpectedly beautiful.

Suspended in air, a collection of dreams

But that was only the frame of the picture. Beneath the lamps, vintage cars were everywhere. There were more than 400 of them, each supported by a neat arrangement of steel rods which maintained the tires an inch above the gray gravel floor. Cars? Correct that. It was more like a collection of dreams that greeted the astonished spectators that morning. As pristine as the day they rolled out of the workshop, and all but a few of them restored to perfect working condition, the vehicles were the finest and most coveted examples of the greatest names of a century of European automobile building. In all, 94 different marques were represented, running from a curious (and exceedingly rare) 1878 Jacquot steamer to a 1972 Ferrari 312-B, and passing by way of the obligatory Rollses, Isotta Fraschinis and Hispano Suizas to some terrifying specimens of Germanic hyperbole, like a prewar, 600-horsepower Mercedes racer and a 200-mph Porsche 908/3.

Above all, though, there were Bugattis, the finest of the finest, the aristocrats, the ultra for the purest connoisseurs of automobile collecting: no fewer than 123 "Bugs," blazing blue and beautiful through eight of the 29 rectangular display areas. It was by far the largest Bugatti collection in the world, representing about ten percent of the marque's autos that are still extant. The more common (if such a word can be used) Types 35, 43, 46 and 57 were there in profusion, all open cockpits and wooden steering wheels and high skinny tires. Those marvels were upstaged by other, even rarer Bugattis, including the astonishingly modern Type 32, the "Tank." The first racer to have its wheels enclosed within the body, it used water as hydraulic brake fluid. Finally, looming over the entire collection, there were two spectacularly elegant Royales, a limousine and the Coupé Napoléon, personal car of none other than Ettore Bugatti himself (p. 91).

At first the 214 union marauders stood gapemouthed beneath the *lampadaires*, transfixed with wonder. Then, shaking off the inhibitions of their anticapitalist ideology, they indulged themselves in the natural pleasure of a visit to the collection from beginning to end. They were the first "public" to see what French tourism officials now refer to, probably rightly, as "the world's most fabulous automobile museum."

Detoured but undeterred, the feisty Schlumpf is in Switzerland, battling to turn the wheel full circle.

It was never meant to be public, not in its present manner, at any rate. It was conceived, developed and brought to its dazzling fruition as the private domain of one extraordinary man, an iron-willed, imperious and thunderously proud Swiss expatriate businessman who from his very youth set out to "acquire, possess and dominate"—these are his own words—the entire Alsatian wool industry. He did exactly that, and then turned to collecting cars with the same ferocious determination. He succeeded better than anyone could have imagined—only to have it all taken from his grasp.

The converted spinning mill in Mulhouse now bears the title of Musée National de l'Automobile. Since its opening in July 1982 as an officially sanctioned museum, it has become the Number Three tourist attraction in all of France, having already welcomed well over half a million visitors. But behind this facade of peaceable bureaucratization lies the fearsome wrath and the continuing struggle of the man who brought it all about: Fritz Schlumpf. It is indicative of the force of his character and the imprint that he has made upon the region that hardly anyone refers to the collection

Schlumpf's remodeled spinning mill in Mulhouse is suitably elegant showroom for more than 400 vehicles.

by its official name. Everywhere in France, whenever the subject of beautiful automobiles arises, people say simply "the Schlumpf museum."

Born of a Swiss father and an Alsatian mother, Fritz Schlumpf was schooled and raised in Mulhouse but he never became a French citizen, a fact which marked him as an outsider. He went to work in the textile trade at age 17 and quickly demonstrated his commercial acumen as an independent wool broker working with local factories. Calling his older brother, Hans, to his side, he founded his first corporation in 1935 and began buying shares at attractive Depression prices in a local wool-spinning mill. When the Second World War erupted, Schlumpf's Swiss passport made him immune to the wave of mobilization which swept over France. Voted deputy director by his fellow board members, who were departing for the front, he wrested control of the mill by issuing new stocks and then buying them up himself. When the Germans marched into Alsace, Hans and Fritz Schlumpf were the masters of the mill. Business throughout the years of occupation was excellent, and the two brothers ended the war years prosperous and ready to expand further.

"As of this period, their reputation was made," wrote Francis Laffon, a Mulhouse journalist, and Elisabeth Lambert in their *L'Affaire Schlumpf*, the definitive book on the subject. "The region's industrial circles, especially the austere Mulhouse Protestants, were shocked by the manner, inelegant, to say the least, by which they took power."

At the war's end, the resistants wanted to shoot the Schlumpfs for collaborating with the Germans, but things turned out surprisingly well. Overwhelmingly endorsed by the mill's workers in a special referendum, the brothers took the vote of confidence as a carte blanche. Moving from coup to coup, they rolled over their competitors. For a couple of decades they were on top of the world. Rich, powerful and feared, Fritz and Hans resided with their elderly mother in a villa next to the first factory over which they took control. They were devoted to her and to their work.

But fissures began appearing in the Schlumpf empire's foundations in the 1960s, when the trade union movement developed political muscle. After the first strikes erupted, the unions proved to be an obstacle that the outraged Fritz could not demolish. By the

Rudolph Chelminski, a frequent contributor who lives near Paris, has written recently about a plot to kill Napoleon and the horse museum at Chantilly.

All models are restored to mint condition. Blue autos in front are Gordinis; red ones are Alfa Romeos.

early '70s, everything was going wrong. To the labor-management impasse was added the worldwide recession and the advent of unbeatably cheap competition from Third World textile industries. Suddenly, the empire was mortally threatened. In 1976, after three disastrous years of loss upon loss, Hans and Fritz petitioned for bankruptcy, offering their entire holdings for sale at the symbolic price of one franc. But Fritz Schlumpf's cars were not included in the deal. They were his private passion.

When Fritz was still young and just beginning to succeed in business, he bought himself a Bugatti. It was a splendid, pinch-tailed, fenderless Type 35 B, as brilliantly blue and as mechanically perfect as only Bugatti could make them. It remained his personal "fun" car thereafter, right to the bitter end, and it was the start of his long association with Ettore Bugatti and his admirable little factory in Molsheim only 100 or so kilometers up north, near Strasbourg.

It was not until 1957, though, that Fritz began collecting in earnest. The first old clunkers which he had shipped to his factory—a Le Zèbre, an Avion-Voisin—may have been an amusement at first, but the amusement rapidly became an obsession. Within three years he had set up a network of scouts throughout Europe and America. Already, specialized teams of artisans and workers, recruited from within the empire and hired from outside, were working full time at automobile restoration. In 1957 he had also acquired a nicely located spinning mill in Mulhouse. He began winding the company down in 1962 and in 1965 closed it entirely, laying off most of its 350 employees. From that moment on, the huge (150 by 135 meters) main factory and its attendant ateliers and storage areas were devoted entirely and only to cars and their restorers.

Fritz was a thoroughly eclectic collector who appears to have limited himself by only two guidelines: no American cars and an emphasis on Bugattis. The priority on Bugattis is something any car lover can easily understand, but in Schlumpf's case there were also reasons of personal affinity. Both Schlumpf and Bugatti had been born in Italy, and the fathers of both were named Carl. Both set up their businesses in Alsace and both were autocratic perfectionists by nature.

From the moment Fritz purchased his first beautiful 35 B, he was an habitué of the factory at Molsheim, hanging around the workshops like a suitor in a pretty girl's parlor, and he continued just as ardently after Ettore died in 1947. He raked Bugattis into Mulhouse by the dozens, achieving his greatest coup in

The museum that Schlumpf built

Among Mercedes Benz models on display are sporty versions (three in front) that won races in Europe.

Museum is dedicated to Schlumpf's mother, Jeanne, whose photograph is flanked by marble maidens.

1963 when he made a deal with Hispano Suiza, who had bought the failing marque from Ettore's heirs. For the price of about $438,000 he picked up Bugatti's personal cars plus 18 other cars, four chassis with engines, eight engines, two steam engines and diverse accessories. In itself this was a terrific deal, but the price also included the complete restoration and revision of his entire collection of Bugattis—in the company workshops and by Ettore's skilled craftsmen.

By the time the museum was nearing completion in the spring of 1976, however, the Schlumpf group was on the brink of bankruptcy. For Fritz, the collection was his purely personal possession. He did plan to open the museum to the public later in the year, but it most definitely would remain under his control. He had kept his fabulous treasure virtually a secret. It is estimated that, at the time of the union raid, only 35 persons, apart from the craftsmen who had done the restoring, had laid eyes on the collection. When the raid came, the news must have hit Fritz like a fist in the stomach. It was a defilement.

Fritz learned of the raid from afar, for by that time he had already taken refuge in Switzerland, after hav-

ing been held captive in his own home. In the wake of his bankruptcy, which had put his last 2,069 employees out of work, union activists had surrounded the Schlumpf mansion in an effort to force Fritz to negotiate a settlement. After three days, police allowed the brothers to seek sanctuary across the border in Basel. From then on, they stayed put in Switzerland, conducting their affairs via intermediaries. When the Schlumpf workers moved in and "claimed" the car collection, it was a vengeful blow.

Whose pocket did the money come out of?

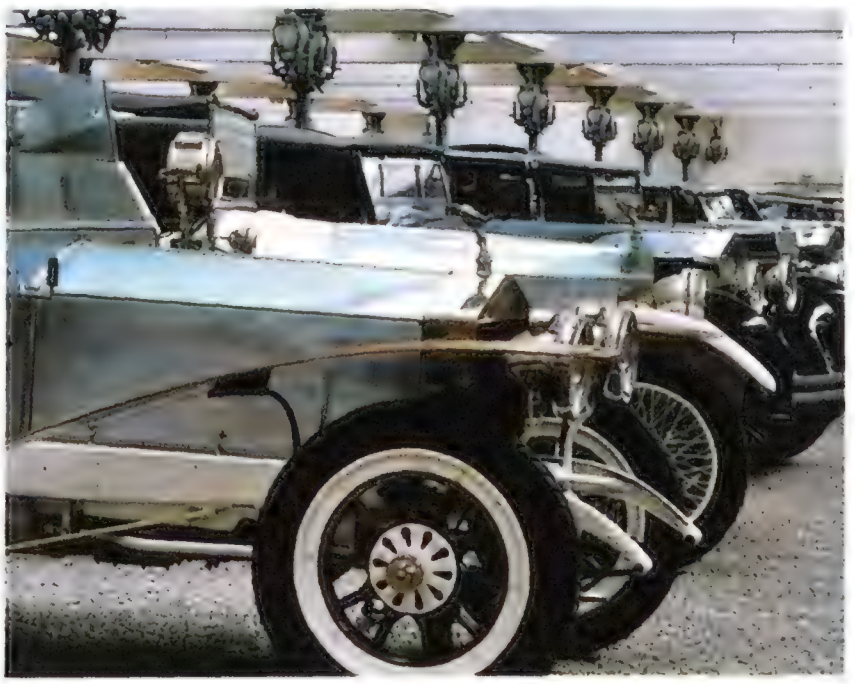
A siege began which dragged on for two years, as Fritz fulminated and directed a battery of lawyers from Basel and as the regional and municipal authorities waffled. It was election time, and no one wanted to antagonize the trade unionists and their sympathizers. So, despite a court judgment in favor of the rightful owner, the workers hung on, and no one bothered them. Their reasoning was simple: Fritz had debilitated his companies by spending money on old cars and the new exhibition hall. Fritz counterclaimed that everything came out of his own pocket. His multiple companies dovetailed into an accounting maze that was a nightmare to disentangle.

Finally, 50 years after he had started his remarkable ascent, Fritz got the bill for his "inelegant" business practices, his unbending aloofness and his contemptuous treatment of his fellow Mulhouse notables. One after the other, the blows fell on his balding pate, delivered by what he perceived as a pusillanimous national government, a biased judiciary and a horde of xenophobic business peers. In 1978, the French Council of State classified the collection a *monument historique*. The effect of that move was to keep it forever inside France, and thereby to lower dramatically its potential market value.

The following year, the Court of Appeals declared that the brothers had illegally appropriated company funds and confirmed the arrest warrant that previously had been issued against them. In 1981, a commercial court in Mulhouse took the museum away from Fritz, authorizing it to be sold for a paltry $8.8 million to cover debts allegedly left behind at the time of bankruptcy. Last March the same court administered an ostensible coup de grâce, finding the brothers "guilty of using the assets and credits of five of their companies in a way they knew to be against the interests" of the group. In absentia, Fritz was sentenced to four years in prison, Hans to two.

Today, the museum is run by an association comprising the city of Mulhouse, the Upper Rhine *département*, the Chamber of Commerce and a few other participating nonprofit organizations. It is generously

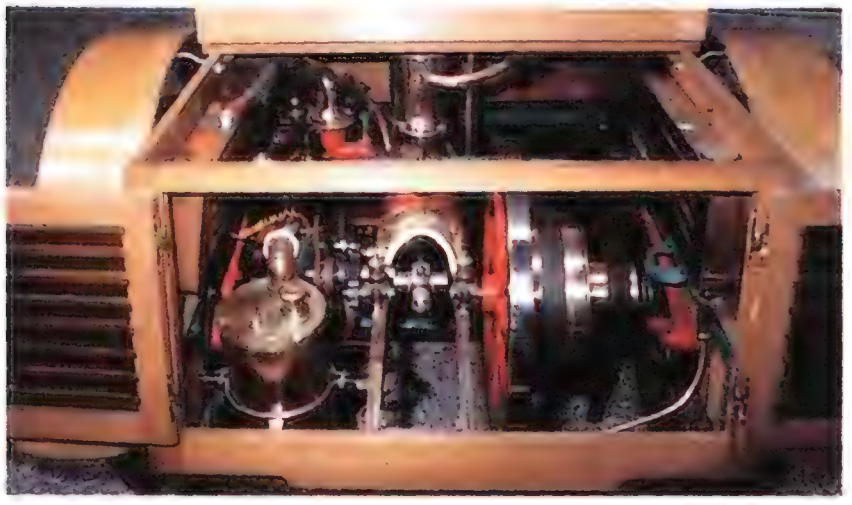
Before selling out to Citroën, 1919, Emile and Louis Mors made luxury cars, including this Type N tonneau.



Produced for 18 years, early Rolls Royce is called Silver Ghost because of its silver-plated accessories.

Museum has two rare Farmans, which increase privacy for passengers by kicking the chauffeur out of the cab.

Anticipating the compact trend, 1908 Délage Type F is small, with one-cylinder engine and magneto lights.



Schlumpf laid off company employees and hired skilled craftsmen to restore antiques like 1898 Benz engine.

Hallmark of interior luxury, the Hispano Suiza H6 B is a chauffeured French coupé that came out in 1928.

staffed with 42 employees and the cars are lovingly coddled by Patrick Garnier, the young assistant director, a man so in love with vintage autos that he cannot restrain himself from coming in on vacation time to make sure that his babies are still all right. Jean-Claude Delerm, the director, speaks predictably of exhibitions, symposiums and other such usual museum business, but the visitor cannot avoid a feeling that something is missing. Clearly, the heart of the collection is there, but not the soul.

A final twist of the knife is thwarted

For better or worse the museum is Fritz Schlumpf, and his presence is at every turning: the coat of arms on the front door, the huge, gold-framed photo of Jeanne Schlumpf, the brothers' beloved mother, to whom they dedicated the museum, and even Fritz's own cherished 35 B. The trade-union organizers of the occupation had urged the association to remove all proprietary signs of the Schlumpf family—a final twist of the knife—but their demand was refused.

"The museum has no meaning without the Schlumpfs," insists Journalist Laffon, a man who can scarcely be accused of harboring deep affection for the brothers. "What is tragic about this affair is that everything could have been different if Fritz had been able to bend a little. The authorities had promised him that if he came back from Switzerland and donated the museum, everything could be arranged. If Fritz had been able to communicate a little, we would have a Schlumpf Foundation today."

Communications have not improved with the passing of time. *Au contraire*. Fritz Schlumpf in Basel is hopping mad, and even the luxury of his penthouse can not palliate his implacable rancour. His eyes burn with the fire of righteousness and his muttonchop whiskers tremble as he pours out his bile.

"I haven't laid down my arms," he declares, fondling the rampant silver elephant, sculpted by Ettore Bugatti's brother, Rembrandt, that had served as the hood ornament of his Coupé Napoléon Royale. It is the only relic of the museum remaining in his possession. "They stole my business and my museum, and now they're trying to steal my honor."

What bothers Schlumpf the most is the all-too-perfect balance between the outstanding debts declared against his companies at the time of his petition for bankruptcy—$8.4 million—and the price at which his treasure, including the buildings which house it and the land on which it sits, was let go to the association which now runs the museum. One nicely covered the other, and the big loser was Fritz Schlumpf.

"It is a manifest case of robbery," snorts Fritz, who claims to have had an estimate of 300 million francs,

or more than $63 million, from Christie's in 1976. "Why, the Coupé Napoléon alone is worth $4 million!" In fact, appraisers put the value of the Coupé Napoléon at about only $1 million. Determining the exact value of vintage cars is a fiendishly difficult undertaking, but it doesn't take a genius to question the arithmetic carried out after the Schlumpfs' flight. In all, the collection numbered 466 vehicles, of which the 437 in the hall at the time of the raid were in absolutely mint condition. At the evaluation when they were taken away from Fritz, each one of his perfect collector's items was assigned the price tag of a new middle-range French production car—and less if the value of the buildings and land is deducted. It all looks very much like retaliation.

If the wheel has come full circle, then, inelegance for inelegance, Fritz is ready to carry on the fight as he has always done before. At 77 he is jumping up and down in his corner of the ring, batting his gloves together and grimacing horribly toward his opponents.

"My name is known the world over because of my collection," he says. "That's what makes them pale with jealousy, all those Alsatian notables who preen themselves over their art and literature, and who have never been able to create anything comparable with this. But this affair isn't finished—far from it. I'm appealing to the French Supreme Court, and if they don't uphold me I'm going to the Court of Human Rights. There are 21 countries represented there, and France has only one vote.

"I'm not a dying old man. I'm a vigorous young man in top form who still drives a car at 200 kilometers an hour. In 23 years I'm going to be a hundred, and I have already reserved my table at Maxim's for the party."

Maxim's in Paris, of course. The choice of venue is typically Schlumpf. Maxim's is by no means the best restaurant in the world, but it is always in the spotlight of attention—and it is in France. It is Schlumpf's way of saying that he will be exonerated, that the arrest warrant against him will be rescinded, that he will be free to circulate in France once again—and that he will make sure everybody knows it.

Fritz Schlumpf has no doubts. "My message for American car collectors is simple," he says. "Tell them to wait one more year, and then come to Mulhouse. Then I will receive them. In my museum."

Worth more than $1 million, 1930 Coupé Napoléon was personal car of Ettore Bugatti, Fritz Schlumpf's good friend. The Bugatti is Schlumpf's favorite marque; the museum contains 123 examples of it.

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By Helen Dudar

It's home sweet home for geniuses, real or would-be

New York's Chelsea Hotel is a Victorian Gothic dowager decorated with lacy black balconies and dedicated to the many facets of the arts

Members of Theatre Omnibus, Irish mime troupe that performed at Lincoln Center and United Nations during tour, played special "performance" on a balcony of the Chelsea, where they happily resided.

The Chelsea Hotel of New York, a cheeky Victorian concoction of painfully pinkish brick and lacy iron balconies, is 100 years old, legendary and landmarked. Genius has slept here and created art here and fallen down drunk in its lobby. Five commemorative plaques festoon its entrance, and the principal one—the one that tells you about James T. Farrell, Robert Flaherty, John Sloan, Thomas Wolfe and other Chelsea immortals—has a patch that was scrubbed so often that the surface had worn away. No sooner was the graffito erased than a sly midnight hand with a Magic Marker returned to scrawl the name again: "Sid Vicious."

Sid Vicious was a 21-year-old British punk-rock guitarist who, one dope-swamped night in Room 100, a space said to be so poor and sour that it gave new meaning to the word dungeon, fatally stabbed his girl. When a heroin overdose killed Vicious a few months later, he was living elsewhere. The management, while tolerant of its guests' eccentricities, has standards.

Five years after the event, it is doubtful that many of the Chelsea's permanent population, who occupy about half the hotel's 400 rooms and apartments, notice the scrawl or think twice about the tragedy. If they are not callous about homicide, most of the inhabitants are immune to surprise and inured to extremes. In a city where glory and squalor dwell imperfectly side by side, a union of Thomas Wolfe and Sid

One of New York's first cooperative apartment houses, Chelsea became a hotel centered around creativity.

Photographs by Enrico Ferorelli

Manager Stanley Bard shows off a bookcase holding works by former and present residents of the hotel.

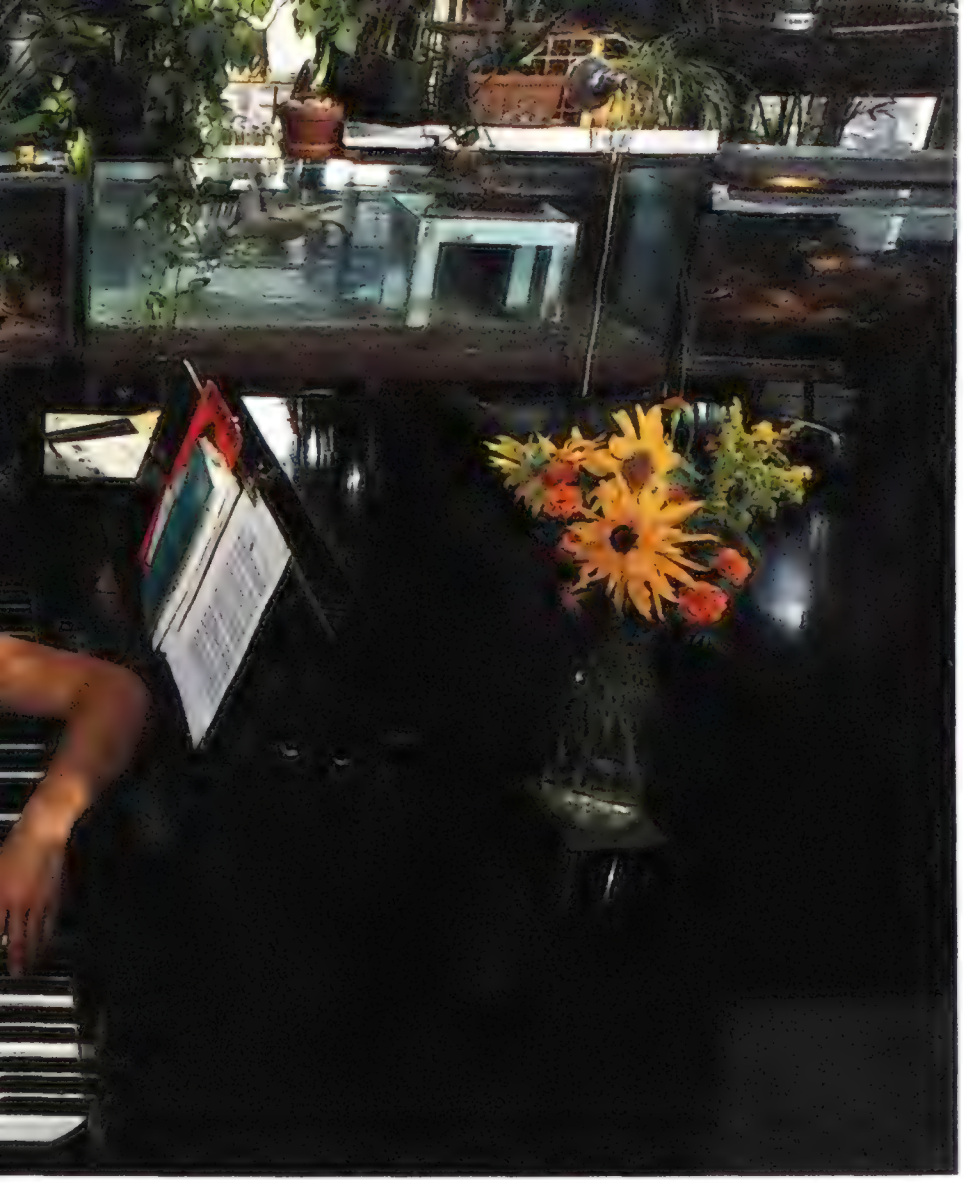
Susan Kleinsinger, widow of the composer George Kleinsinger, sits at piano in her overgrown living room.

Vicious is simply urban poetry. With its mythic romantic history and its raffish charm and its resident colony of artists, writers, theater folk, hookers, loafers and losers, not to mention ordinary petit-bourgeois wage earners and eager tourists who hope that creativity is catching, the Chelsea is quintessentially New York.

A ten-decade patina has added no grace to the place; it is a cloddish edifice which owes its distinction to a long line of famous tenants and to the fact that it has survived the rapacity of the city's real-estate establishment. In 1966 it actually won landmark status from the city—over the reported objections of some members of the local community planning board.

To generations raised on the antiseptic sheen of motel Formica and cookie-cutter decor, the place must certainly seem threadbare. In his poem "The Chelsea," Derek Walcott, an occasional visitor, spoke with delicate precision of "the hotel's beige dankness." The building *is* old and has the kind of stale grandeur Americans find quaint and atmospheric only when they encounter it in Europe. There are colonies of mice and two famously cranky elevators and 12-foot

Helen Dudar is a free-lance writer who lives in New York City. She has been living within walking distance of Chelsea Hotel for 15 years.

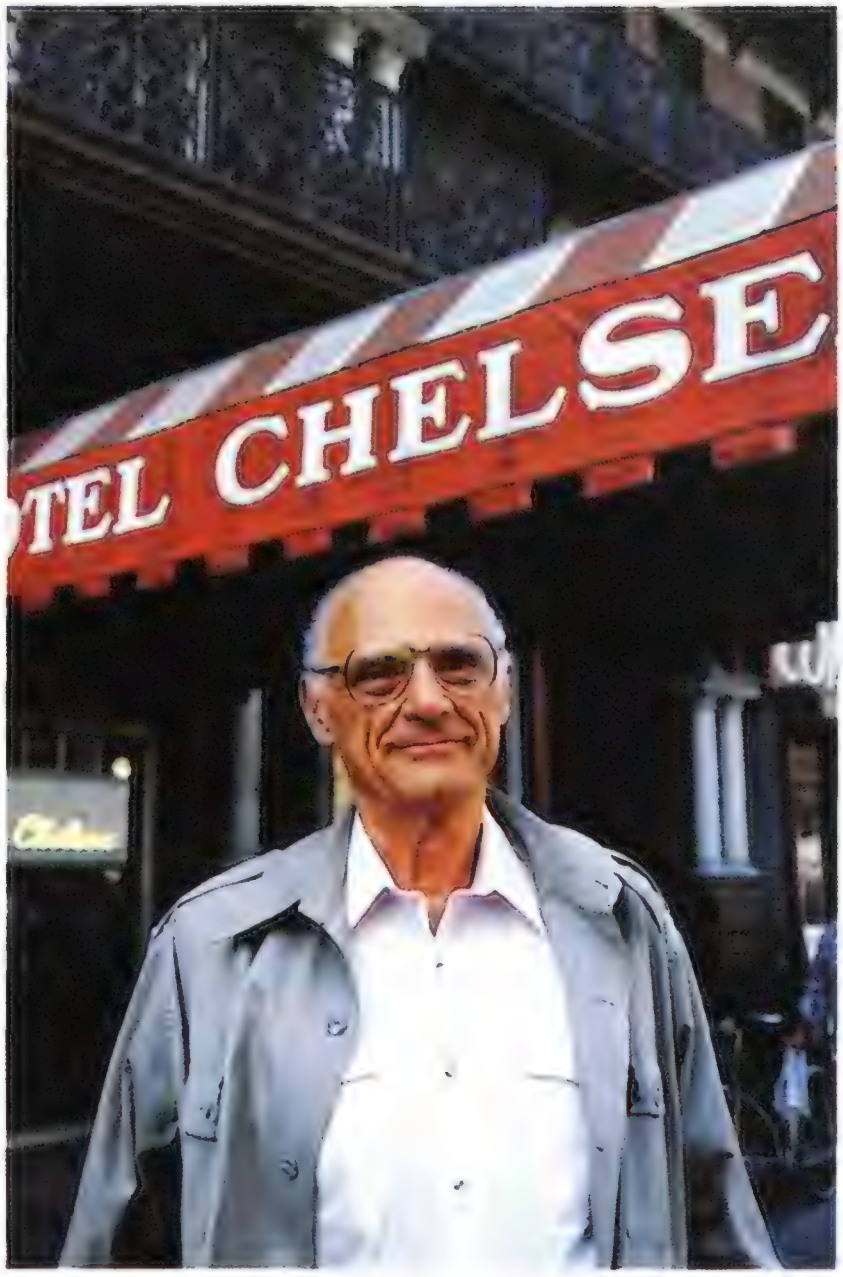


He was famous for his flora, his fauna—including snakes, lizards, a monkey—and his musical evenings.

ceilings with beautiful moldings. There are tiny singles whose occupants must use bath and toilet located down a spacious marble-floored corridor. There are still a few stained-glass transoms that have escaped thievery. Sent to examine a room which the manager reports "I've just fixed up," one finds walls that, even with a fresh coat of paint, look as if they had been underwater for six months, ancient carpeting the color of congealed gravy, and some furniture that the average thrift shop would consider unsuitable for resale.

But the building is a bundle of surprises which begin in the lobby with its bits and pieces of modern sculpture and its walls entirely covered by the work of old and new tenants: abstract and representational art, good and bad paintings, several important pieces—among them a fine Bernard Childs portrait and an immense pop rendering of a Dutch Masters cigar box by Larry Rivers, who spent some years in the Chelsea.

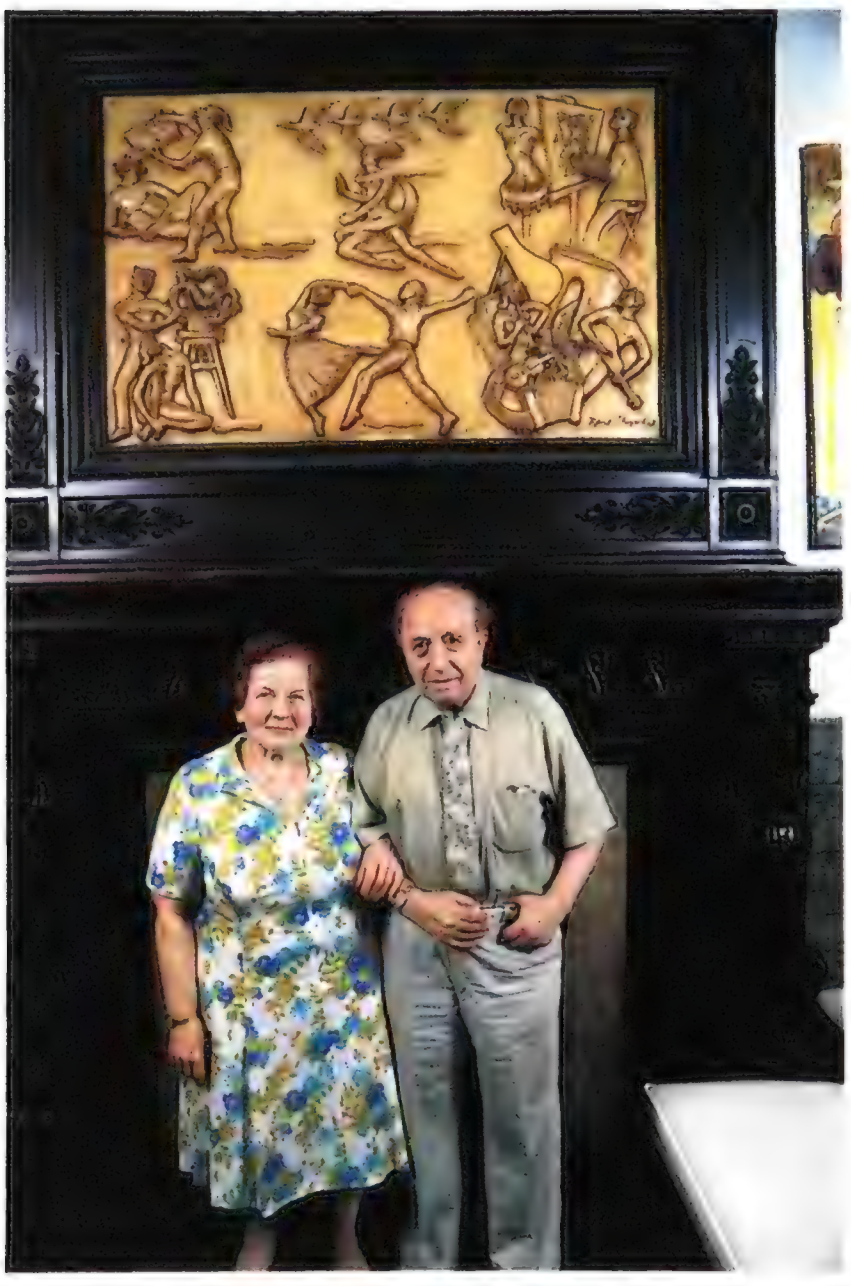
In the permanently occupied apartments are to be found polished parquet floors in handsome privately furnished spaces or cheerfully crammed rooms with the benign kind of clutter that blooms around creative artists working steadily and productively. The hotel has 11 floors of living quarters, the top one consisting of light-flooded studio aeries that give onto a roof where strawberries and grapes grow.



Arthur Miller made the Chelsea his New York base for seven years; he wrote most of *After the Fall* there.

Composer-critic Virgil Thomson finds his five-room suite "very handsome," has lived in it for 40 years.

Artist Alphaeus Cole is 107, hotel resident for 25 years. President Reagan recently sent birthday greetings.



Residents, sculptor Rene Shapshak and his pianist wife, Eugenie Palca-Shapshak, stand in hotel lobby.

For the imaginative, the amenities include what Katherine Bel Geddes, a young actress who is a niece of Barbara Bel Geddes and a former resident, called "good ghosts"—the shades of talents past. In truth, some of those talents ended their days at the Chelsea in a state bordering on calcification. Yet, there has always been a busyness about the place—a "wonderful crazy energy," in the words of Susan Kleinsinger, widow of the composer George Kleinsinger, who was one of the best known of its enduring tenants.

The walls are thick and soundproof, the staff is sensitive to the creative process and the only "house rule," Arthur C. Clarke once noted appreciatively, is "Bring out your own dead." For some 20 years, Clarke, whose permanent address is in Sri Lanka, spent long periods at the Chelsea. "With those little kitchenettes, you can cut yourself off completely, you see," he says. "You can live on TV dinners and coffee." Fueled by frozen meals, Clarke wrote the novel *2001: a space odyssey* in a tenth-floor apartment there.

The Chelsea looms over a big stretch of 23rd Street between Seventh and Eighth Avenues, the kind of down-at-the-heels block that out-of-towners find disquieting. It includes an off-track betting parlor whose lounging customers litter the street, a synagogue, a left-wing bookstore, a restaurant—El Quijote—where good cheap lobster is served by surly waiters, a YMCA with pool and running track, a talented off-off-Broadway theater called SQUAT, and a permanent street population of argumentative derelict men, who, at any hour of the day, may be seen quarreling over a $1 pint of Thunderbird wine.

Off to a classy start, but hard times follow

When workmen began digging the foundation of the Chelsea, 23rd Street was uptown and classy. It bustled with department stores, an important vaudeville theater and the Grand Opera House. Tradition has it that ten affluent artists financed the venture. The story is unverifiable and probably apocryphal; it isn't easy to imagine ten artists simultaneously in the money and in agreement on how to spend it. In any event, the building, one of the first cooperative apartment houses in the city and for some years its tallest structure, was nearly finished in 1883, the date engraved at its top floor, and opened the next year.

Within the following 20 years, both the street and the Chelsea Apartments fell on hard times. The street lost its cachet as the city continued its northward march, and the building suffered severe setbacks in the wake of rising taxes and Wall Street panics. Sometime after the turn of the century, the cooperative went bankrupt and the property was sold. When it reopened as a hotel in 1905, its grand apartments, some as large

Bernard Childs and wife, Judith, pose in his studio.
The Childses have lived in the hotel for 17 years.

South African-born painter Roy Carruthers says he was drawn to hotel by helpful, friendly management.

Sandra Toder Dancer, shown with her dog, Alfie, is a singer, actress, musician, dancer and writer.

as 12 rooms, had been pared down to more affordable quarters. A suite could be had for as little as $3.50 a night. The Chelsea has never been a pricey place.

From the beginning of its life as a hotel, it attracted a creative clientele drawn by the noise-resistant space to work and play in. Its earliest residents and visitors are said to have included Mark Twain, Sarah Bernhardt, O. Henry and Hart Crane. It has quartered Nelson Algren, Willem de Kooning, Jasper Johns, Vladimir Nabokov, Jane Fonda, Charles Jackson, Sidney Nolan, Sam Francis, Milos Forman. In her late years, Elizabeth Gurley Flynn, chairman of the American Communist Party, called it home, and so did Charles James, by then a sad ruin once regarded as America's only fashion genius.

Edie Sedgwick, the doomed Warhol moth, liked to go to sleep with candles burning and nearly incinerated herself there. The building is so brilliantly fireproofed that, it has been said, flames could reduce one room to ashes without spreading to the next. The only fatality of the Sedgwick fire was Edie's smoke-poisoned kitten, offspring of a cat that belonged to another 1960s resident, Bob Dylan, who wrote his epic rock song "Sad-Eyed Lady of the Lowlands" at the Chelsea. Beginning in the late '60s, when the Fillmore East was a hot center of the rock scene, the Chelsea periodically filled up with passing groups and their groupies—the Mamas and the Papas, the Jefferson Airplane, the Grateful Dead, plus Janis Joplin and Jimi Hendrix. Hard drugs arrived with the music. Arthur Miller, who used the Chelsea as a New York base for seven years or so, still remembers it fondly as "as close to a home as you can get in a hotel," but the spaced-out kids and grown-ups in the lobby, he says, drastically altered the ambience. Yet, even in its most bizarre phase, the Chelsea had what literary agent Virginia Barber, a one-time tenant, calls "a sweet disorder."

A regular guest during his American tours, Yevgeny Yevtushenko, perhaps unaware that grit is the usual by-product of the city's traffic and smokestacks, has immortalized Chelsea soot—"black streams, cloudy black worms, slithering into the cracks across the floor." On a final visit in 1953, Dylan Thomas left the hotel one night for a drink, returned 90 minutes later to report having had 18 and then lapsed into an alcoholic coma. Ten years later, Brendan Behan, also studiously drinking himself into an early grave, could be found dancing and singing in the lobby and, sometimes, panhandling passersby for the price of a whisky. Once, Katherine Dunham, the great black dancer and choreographer, asked for the use of an upstairs corridor for an evening rehearsal of the grand march of a Metropolitan Opera production of *Aida*. The large cast that turned up included two adult lions. They were tame, she said. Please don't do it again, the management said.

The hotel is steeped in odd memories and a touching sense of cultural continuity. When Virgil Thomson (p. 97) came to stay in 1940, it was already a familiar setting to him; a few years earlier, he had come by to share a drink with Thomas Wolfe at a neighboring saloon and he had spent a part of 1937 in residence there writing, among other things, the score for the film *The River*.

For some 40 years, Thomson has lived and composed in a sun-washed ninth-floor apartment. It has a baby grand, the only mahogany and cherry woodwork in the building that has escaped the hotel painters' brushes, and fine period bronze door hinges. It also has eight pairs of shoes neatly lined up before the bedroom

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Investment counselor Jonathan Berg stands in roof garden he built. He lives in a top-floor duplex in hotel.

fireplace, instantly accessible to a peppery man of 87 perhaps too rotund to rummage through dark closets for footwear.

Before he moved upstairs, Thomson was in 210, neighbor to Edgar Lee Masters, who also wrote a poem about the Chelsea, incorrectly prophesying its demise under a wrecker's ball. Poor Masters, enfeebled by age and embittered by neglect, never able to duplicate the great success of *Spoon River Anthology*, had lived there since 1920 and depended on the kindness of friends. "He was getting not to walk very well, and Alice Davis, a stenographer who lived there, used to go walking with him and spend evenings having dinner and reading," Thomson remembers. "She was very devoted. But then he had this illness, and a son appeared, took him over and delivered him to a wife he hadn't seen for years and didn't like."

One flight up from Thomson's place is 1022, where John Sloan painted for years. After he died in 1951, Nahum Tschacbasov, who has lost count of the number of studios he has leased in the Chelsea in the past 40 years, moved in for a 20-year stay and left some vivid surrealist art on the walls.

Searching her memory for Chelsea experiences, Tschacbasov's wife, Irene Zevon, who is also an artist, recalls, "Once we got into a cab in front of the hotel, and the driver said, 'I just dropped off a man with a snake.' I said, 'I know who you dropped off.' George Kleinsinger was a friend of ours."

George Kleinsinger was everybody's friend. The composer of the children's musical *Tubby the Tuba*, the opera *archy and mehitabel* and a cantata to the Brooklyn Dodgers was a joyous, life-embracing man whose unique decor attracted visitors by the multitude. Only the Chelsea would have tolerated the tangle of flora and fauna (pp. 96-97); a tropical forest still takes up one-third of a biggish studio room and there are still doves, a pair of lovebirds, a cockatiel, a parrot that says "Hello, hurry back," an assortment of pet fish, a soft-shelled turtle that does a water ballet to music and a cat that likes to tromp on the piano keys. At various times the place also housed a boa constrictor, a python, a basilisk, a gecko, a monkey and an ill-tempered skunk that bit female visitors.

Susan Kleinsinger met him on the elevator one grouchy morning, "fell in love with his laugh" and married him six months later in September 1979, while the doves cooed through the ceremony. Mutely or conspicuously, romance has always flourished at the Chelsea. The poet Isabella Gardner, the gifted Bohemian offspring of a proper Bostonian family, who died in 1981, lived in the hotel for years and, the story goes, quietly conducted a long-term affair with one of the bellmen. To some of the neighbors, the only shock was that she also employed him to serve as a butler at her parties.

If Fellini wrote soap opera, it would progress through a place like the Chelsea lobby. Early in the day, behind the desk, the clerk, Jerry Weinstein, can be heard awakening a guest; he doesn't announce the hour, he sings it, in waltz time: "It's nine o'clock in the MOO-O-RN-EEENG." Tenants with outside offices leave, among them Jonathan Berg, an investment counselor who likes to say, "I'm creative with money."

Former Chelsea residents, artist Christo and his wife, Jeanne-Claude, revisit the art-filled hotel lobby.

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In her apartment, artist Stella Waitzkin holds "living book" sculpture; more fill the walls in back.

Later, Gabrielle, bottom-heavy in Pampers, child of Viva (p. 106), sometime Warhol superstar, writer and painter, toddles into the office of the manager, looking for snacks. She had earlier consumed half his breakfast bagel. The late morning exodus includes Jakov Lind, the novelist, preceded by a massive mustache; a purple-lipsticked woman displaying great expanses of flesh; and a reedy young man with extremely yellow punk-style hair. After lunch, Alphaeus Cole's nurse wheels him out for a walk. He is an artist, a small, white-bearded shrivel of a man who moved to the Chelsea 25 years ago, painted until his 103rd year when failing vision made it impossible, and is now 107.

The heart and soul of the Chelsea is Stanley Bard (p. 96). A slender man in his 40s, with the worried look of an insomniac parrot, Bard "inherited" the manager's job from his late father, David. Although old residents recall the elder Bard as a co-owner with two partners, Stanley vehemently insists *he* only runs it for a corporate ownership.

As his own two children would after him, Bard grew up struggling in a kind of "sibling rivalry" with the Chelsea, which claimed his father's attention 18 hours a day. Trained as an accountant, Stanley came to work for one day in 1957 and never left. The hotel is his obsession, his consuming passion, and he believes both the building and its people are wonderful.

The Chelsea's grand factotum

In his suburban New Jersey home, Bard has an art collection acquired from the tenants and a direct telephone line to the Chelsea which he begins using at six every morning. A short time later he can be found sitting under the ceiling of time-darkened cherubs—the office used to be a ladies' lounge—jotting notes on a 1969 desk calendar. (Nothing is ever wasted. One resident's bedroom is furnished with heavy mahogany pieces that once belonged to Stanley's parents.) Because he is the only person who knows every foot of the hotel's peculiar layout, he is often the reservations clerk. He also takes complaints and listens to hard-luck stories. He sometimes borrows art from guests for the lobby, where he also displays works that he buys. He is a truly kind man and a hopeless fan of any creature who can command a brush or a pen. "Stanley," says Judith Childs, wife of Bernard Childs, the artist, "has great respect for the screwy needs of people who are creative, people who are eccentric."

He is also shamelessly zealous in his pursuit of talent for his hotel. Three years ago, Roy Carruthers (p. 99), the South African artist, wanted a city studio and, at the suggestion of his gallery, checked out the facilities. When he failed to rent, Bard called the gallery and then called Carruthers, persuading him to take another look.

"I said to Stanley," recalls Carruthers, " 'Look, the place is nice, but I'm going to mess paint around.' "

"So mess paint around," Bard said.

"But I don't like the furniture."

"Well, throw it out."

"I'd want to put up a partition for a sleeping alcove."

"Go ahead."

Walls magically rise and disappear in the hotel if Bard believes someone has come for a respectable creative stay. Carruthers signed, won over by the management's eagerness to do just about anything to accommodate guests clearly hard at work on art or literature.

It is striking how often past and present residents use terms like "small town" or "village" or "family" to describe the residential atmosphere. Clifford Irving, who took refuge at the Chelsea in 1972 at the height of the furor over his Howard Hughes forgery scheme, recalls that when fire broke out one winter night "the halls were full of people inquiring after everybody's

A partridge in a pear tree

Two turtledoves

Three French hens

Four calling birds

Five gold rings

Six geese a-laying

Seven swans a-swimming

Eight maids a-milking

Nine ladies dancing

Ten lords a-leaping

Eleven pipers piping

Twelve drummers drumming

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Actress-writer Viva, a longtime resident, is pictured with her daughters, Alexandra, 12, and Gabrielle, two.

welfare, knocking on doors to make sure people could get out. I was impressed with the family cohesiveness; it wasn't like a fire at the Plaza where it would have been everyone for himself."

Irving, lean and bearded, now lives in Mexico with the former wife of an old Chelsea acquaintance. The management, he recalls, jealously protected his privacy during the height of publicity over his case, and residents befriended him. When his funds ran low, Stanley Bard organized a lobby auction of paintings by Irving's wife, Edith Sommers. To get the sale moving, Arthur Clarke bought the first offering for $400.

When he came to dine at the Irvings, Clarke would bring his laser beam for entertainment. "It shot a little red dot out," Irving remembers, "and he'd flash it at people in the street. They'd look down and recoil from this mysterious thing and Arthur would cackle with glee." Clarke's other toy was a Questar telescope; he himself reports, "What you can do with a Questar at night from the tenth floor is nobody's business."

Although Bard does not like to see it in print, he can be seraphically patient about delinquent bills. The Chelsea was home and studio to the artist Christo for much of 1964 after he arrived from France with his wife, Jeanne-Claude (p. 102), and their young son. For months, under the unshockable gaze of the staff, the couple dragged home immense pieces of "junk" scavenged from demolition sites; Christo's sculpture project was a life-size storefront with a wrapped air conditioner above the door. They also found and furnished a loft and, when it was ready, were afraid to move. It was Bard who came calling and said, "You're still here because you can't pay the bill, aren't you?" "That's true," replied Mrs. Christo. "Well, don't be silly," he said. "Don't add to your bill. Move and whenever you can pay me, you'll pay me." They left "Store Front, project, 1964," a maquette of another storefront sculpture, as a guarantee—a work which the artist's wife and Bard later jointly donated to the Israel Museum, Jerusalem. And they paid their bill.

A community of friends

Some of the old residents become what Helen Johnson calls "a community of friends." They share Christmas feasts and invite one another to parties, but nobody just knocks on the door to borrow a cup of burnt umber. Dr. Johnson, an English professor and an authority on black Americans on the stage, has a collection of memorabilia that has spilled over into a second apartment and two commercial storage areas. She has been at the Chelsea for 16 years, always heeding the unwritten rule explained to her by a former tenant, Robert Gessner, the late film scholar: "You never go to anybody's apartment without calling first."

When she arrived in 1967, the roof was the hotel park. In fine weather, residents sunbathed there and sometimes musicians held jam sessions. But the place became "gentrified," covered with private gardens and essentially closed to all but invited guests, causing bitter feelings and a historic protest.

One spring day in 1982, Viva tried to take the roof back; she went up with Gabrielle "and this guy attacked me while I was holding a five-month-old baby. Just threw himself at me. I had a muscle spasm for over a week."

What, after all, is paradise without trouble? But the feud would have saddened George Kleinsinger, a compulsively hospitable man, who was hospitalized and dying of cancer when the dispute erupted. He had lived at the Chelsea for about 20 years and was so devoted to it that he once chose the hotel over a wife who wanted a home elsewhere. "Wherever we'd go," Susan Kleinsinger says, "after a few days, he'd want to come back." And so, even in death, he did. On the Kleinsinger section of the roof—in the garden they planned and planted together, within sight of a majestic skyline, a broad river and neighboring pockets of slums—broccoli and mint and sugar peas and collard greens came to life this year, fertilized by George Kleinsinger's ashes.

Beautifully crafted staircase becomes a fine set for choreographer-dancer Merle Lister, right, and pupil Gina Lior as they rehearse a dance piece composed by Lister to celebrate Chelsea's 100th-anniversary year.

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Three-dimensional "fractal dragon" illustrates species of equations that live in computers, not in nature.

By Jeanne McDermott

Geometrical forms known as fractals find sense in chaos

Abstract patterns that were once called 'monsters' provide a new way to understand the order amid nature's irregular shapes

At ungodly hours of the morning or the evening, when the town's computers are freed from mundane activities, Palo Alto, California, hums. A simple two-story building which looks as though it should belong to a dentist rather than a computer company is no exception. Outside is parked a beat-up Volvo with paper coffee cups strewn across the back seat. Inside, computer scientist Bill Gosper sits in front of a terminal, eyes scanning the screen. Dressed in light-blue pants, a light-blue shirt and construction boots, he holds himself like an outlaw. He is lath-thin and ashen from the hours he keeps. But with fingers as long as heron wings, he plays the computer and it plays back.

Gosper is searching for an image that he made a few weeks earlier to please a friend. He finally finds it. It appears on the high-resolution color monitor, drawn in line by line. A white lightning bolt darts within an orange lightning bolt which darts within many more multihued lightning bolts. The jagged shape repeats itself with an eye-pleasing regularity at different scales. "This is a very simple fractal," he nearly apologizes, but he obviously enjoys its esthetics.

Imperfect form of ginger root is no mathematical match for fractal dragon, but strangely resembles it.

Fractals are not so hard to find across San Francisco Bay, in Marin County, where Loren Carpenter makes fractal images for Lucasfilm. The movie company that created the *Star Wars* saga is housed not in high-tech splendor but in an oak-paneled, leaded-glass arts-and-crafts style building that immediately feels homey and familiar. Carpenter is a member of the staff for computer graphics projects (the first such unit within a movie company); but dressed in brown corduroys with the knees skidded out and a Run-for-the-Roses T-shirt, he just seems like an oversize kid. His specialty is coaxing imaginary landscapes out of mammoth computers. "We want the image to look indistinguishable from live action. It should look like someone went in there with a camera and made a movie," he explains.

Tall order. But Carpenter and his colleagues are perfecting the techniques that will bring realistic computer graphics to the movie screen. In a darkened room with several shelves of videotape machines, he demonstrates what is already possible. "Everything that you see in this animation is synthetic," he says with pride. The tape begins with hills of green polygons, cold artificial shapes that you instantly associate with a computer. Suddenly they erupt, forcing up a mountain range as craggy and majestic as the Rockies. Exhilarated, you fly through them, up and down steep cliffs scattered with ledges, covered with ice, until you land safely on an outcropping. "This is fractal, this is fractal, this is fractal," Carpenter hurriedly explains, pointing to the most realistic images with the same delight that Gosper voiced.

Fractal? Close the dictionary. The word was coined only in 1975. But a sense is already building in fields as diverse as physics and ecology, pure mathematics and computer science, that fractals are changing the way we look at the world. "No one will be considered scientifically literate tomorrow who is not familiar with fractals," offers John Wheeler, professor of physics at the University of Texas in Austin (SMITHSONIAN, November 1983). "Fractals delineate a whole new way of thinking about structure and form," writes Paul Davies, professor of physics at the University of Newcastle-upon-Tyne, England.

Fractals describe a new geometry of nature. They

Fractals make chaos manageable

form a field of mathematics that may have a profound impact on how we view the world, not only in art and film but in many branches of science and technology, from astronomy to economics to predicting the weather. Euclid's lines, planes and spheres—the pure shapes that you probably studied in high school geometry—describe the world of built things. Fractals tackle the chancy intricacies of nature—bark patterns on oak trees, mud cracks in a dry riverbed, the profile of a broccoli spear (opposite). They are a family of irregular shapes with just enough regularity so that they can be mathematically described.

Fractals wriggle and wrinkle, meander and dawdle while remaining infinitely rich in detail. Magnify one again and again and more detail always emerges. Just as a twig resembles a branch and a branch resembles the tree, each part of a fractal is like the whole.

That indeed is the definition of fractal, according to Benoit Mandelbrot, who coined the term. If you look at a circle, he explains, then look at it more and more closely, you will see a smaller and smaller segment of the curve and it will appear to become straighter and straighter. There is no new structure in a circle at higher magnifications. It simply looks more and more like a straight line. But imagine a shape in which increasing detail is revealed with increasing magnification, and the newly revealed structure looks the same as what you have seen at lower magnifications. This shape is a fractal.

Within the family of fractals are two clans. Geometric fractals, like Gosper's, repeat an identical pattern over and over at different scales. Random fractals, like Carpenter's landscapes, introduce some elements of chance. To get to the bottom of fractals, you must meet their "father" and champion, Benoit Mandelbrot. His colleagues describe Mandelbrot as a genius—eccentric, literate and contrary. He describes himself as a self-taught nonconformist. Whatever else, he is one mathematician who does not speak in dry, perfectly balanced equations. Born in Poland in 1924, Mandelbrot skipped most of college but did pass the entrance exam to the leading French science school, the Ecole Polytechnique. He then pursued a master's degree in aeronautics at the California Institute of Technology, and finally returned to the University of Paris where he got a doctorate in mathematics. While at the Ecole Polytechnique as a professor of mathematics, Mandelbrot accepted a position at IBM's Thomas J. Watson Research Center in Yorktown Heights, New York, where he is now an IBM Fellow and manager of a group working on fractals.

IBM's Research Center is only an hour from Manhattan but, set among rolling hills and large estates, it has the aura of a retreat. Indeed, it has been called the ivory tower of the corporate world, a university without teaching responsibilities. Mandelbrot's office —spartan, windowless, bare-walled—sits at the end of a hallway because he can't stand noise. Tall and formal in a pinstripe suit, he speaks with a strong Old World accent, urgency and wit.

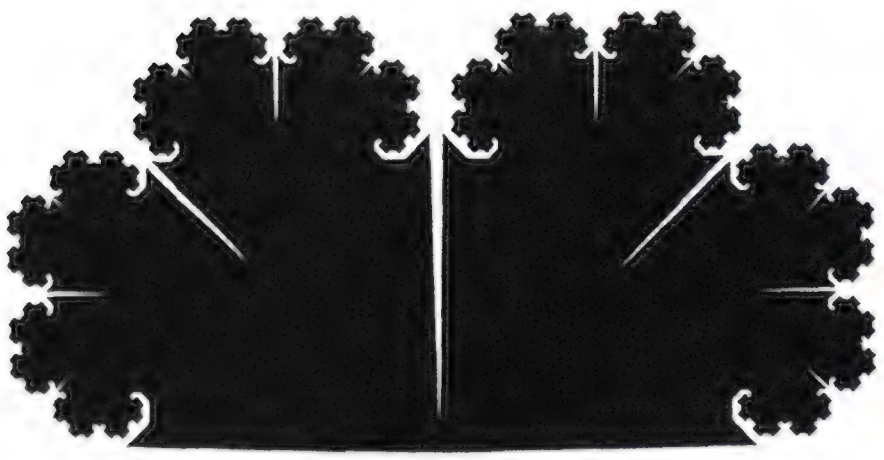
Mandelbrot traces his work on fractals back 25 to 30 years, to a time when "science looked at things that were regular and smooth." He was intrigued by what are called chaotic phenomena. At IBM he turned his attention to a chaotic problem in data transmission by telephone. Every electrical signal is subject to random perturbations called noise. Usually, the noise is not so overpowering that it interferes with the signal's message. But under certain conditions the noise does interfere with the signal in destructive ways. Mandelbrot found a way to describe the chance fluctuations.

Defanging mathematical monsters

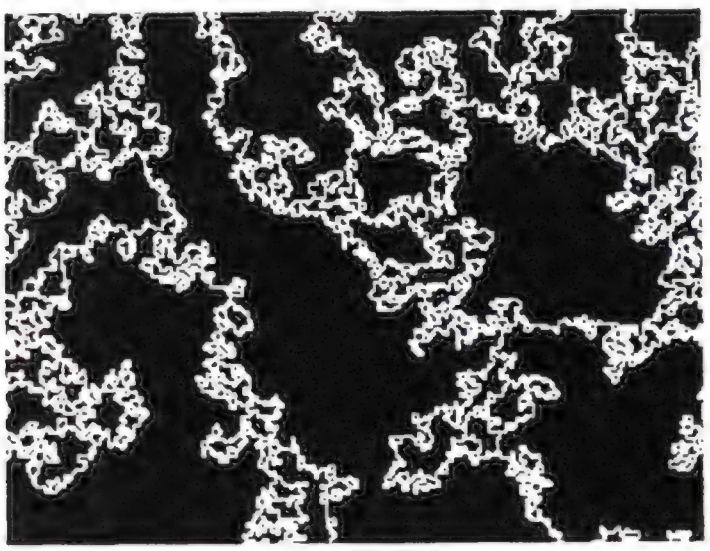
Mandelbrot's methods built on the ideas of several mathematicians who worked between 1875 and 1925 on shapes so strange that their colleagues labeled them "pathological" and "monsters." Scientists of the day were convinced that such shapes were mathematical abstractions with no relation to nature. Helge von Koch added ever smaller triangles to the side of a large triangle to create an infinitely intricate snowflake curve (opposite). Giuseppe Peano's curve writhed in contortions until it nearly filled a plane. Georg Cantor's shapes evaporated into mere dust particles while they repeated a pattern into infinity. Mandelbrot "defanged" or "exorcised" some of the monsters. He saw their similarities and called them "fractals" (from the Latin *fractus*: broken or fragmented).

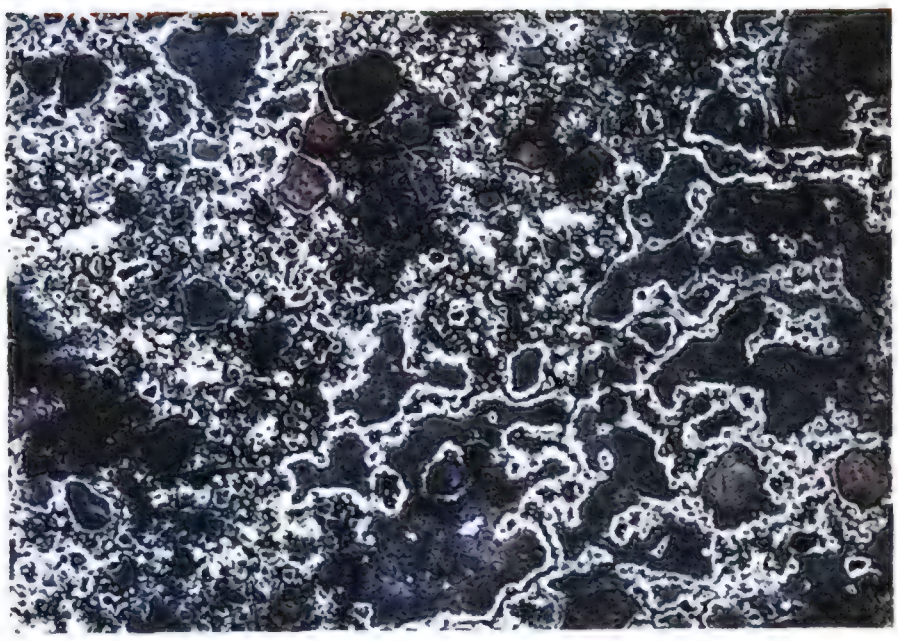
Jeanne McDermott's last article for SMITHSONIAN *was about robotics, in the November 1983 issue.*

Koch's classic "snowflake" is produced by adding more and more triangles to the sides of triangles.



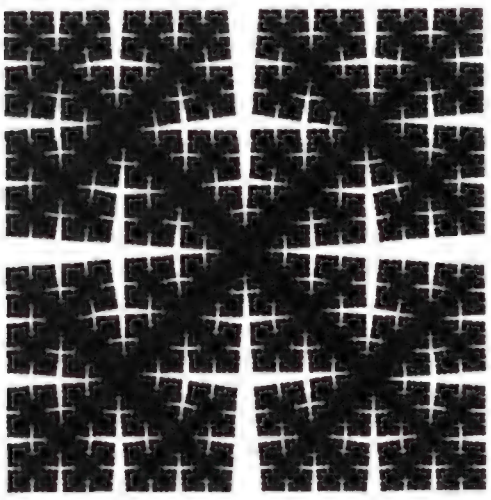
Computer-generated fractals (left side of page) reflect fractals in nature, as with broccoli (right).





Fractal clustering (above) mirrors mineral vaporization on hot lava (right).

A "Cesàro curve" (below) shows fractal pattern of fern (right).



This realistic fractal mountainscape, by Richard Voss at IBM, was created from a mountain of equations.

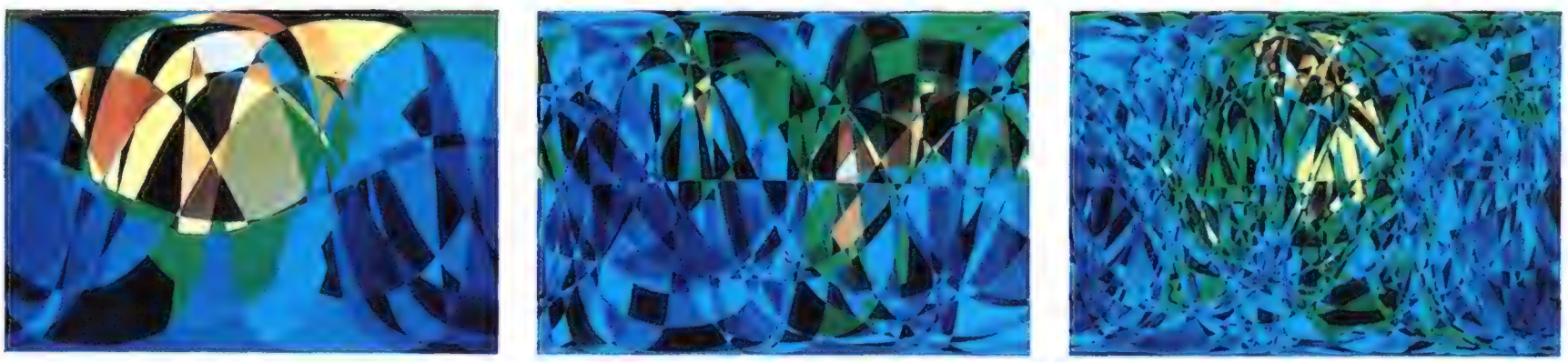
Programmers at Lucasfilm used fractals, mathematical shortcuts to compose a scene, *Road to Point Reyes.*

While the turn-of-the-century mathematicians never thought their monsters bore any relation to reality, Mandelbrot believed that, on the contrary, they described nature much better than any ideal shapes. He set out to prove it. He scavenged problems that scientists had swept under the rugs of their disciplines, problems that did not fit conventional thinking. He characterized price jumps in the stock market, turbulence in the weather, the distribution of galaxies, the flooding of the Nile, even the length of coastlines. "The construction of this theory of chaotic behavior was itself chaotic," he observes.

In the late Sixties, a wider scientific community noticed Mandelbrot's work in a now classic paper called, "How long is the coast of Britain?" Mandelbrot answered: It depends. As the crow flies, the coast is one length. As the person walks, it stretches even longer. As the spider crawls, it stretches still longer. In essence, a coastline with all of its microscopic points and inlets is infinitely long. Mandelbrot suggested that it makes more sense to treat the coastline as a random fractal than as an approximation of a straight line.

Mandelbrot's first book on fractals appeared in 1975 in French. The turning point came when he started using computer graphics to illustrate fractals. His book dazzled the eye with state-of-the-art computer images unlike any ever seen. Richard Voss, a physicist at IBM, created stunning landscapes, earthly and other-worldly, from Mandelbrot's ideas (above, left). "Without computer graphics, this work could have been completely disregarded," Mandelbrot acknowledges.

These images helped produce a change in the scien-



Fractals are used by Richard Voss to simulate evolution of authentic-looking imaginary planet.

Says one programmer: "It should look like someone went in there with a camera and made a movie."

tific world view. Until recently, scientists believed that the only shapes that were useful in science were those simple Euclidean shapes, lines, planes and spheres; all else was chaos. There was order and there was disorder. Now there is order (simple shapes), manageable chaos (fractals) and unmanageable chaos.

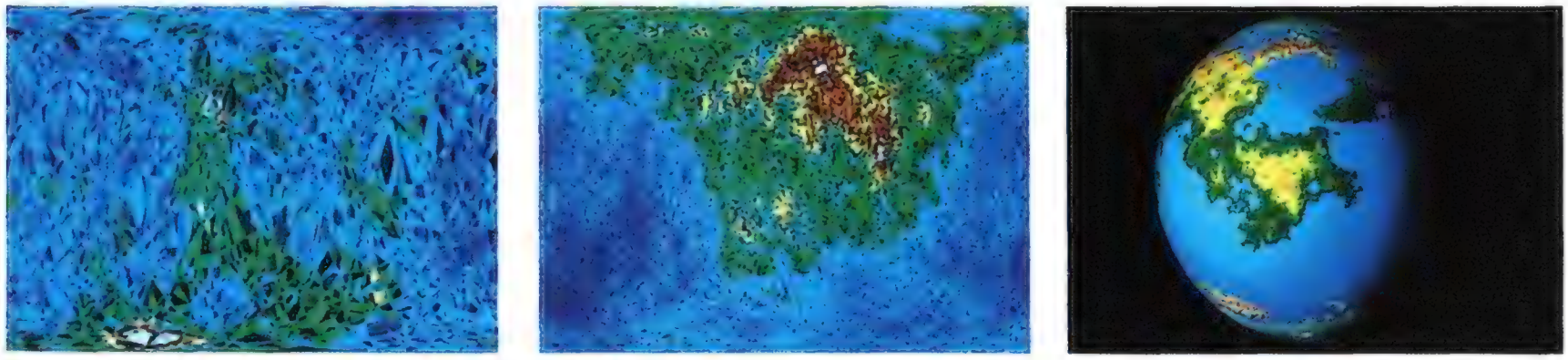
"The esthetic beauty came as a total surprise," Mandelbrot adds. "A premium. When people first come to work on this project, their first reaction to making the images is invariably a kind of intoxication."

For Doug McKenna, one of those drawn to Mandelbrot's circle at IBM, fractals crystallized a lifetime interest in mathematical designs. As a child, he painstakingly drew them by hand on graph paper with colored pens. In school he got interested in computers, in part because they meant automating the drawing process. But practical considerations, like pursuing a master's degree in electrical engineering at Yale, superseded his artistic inclinations.

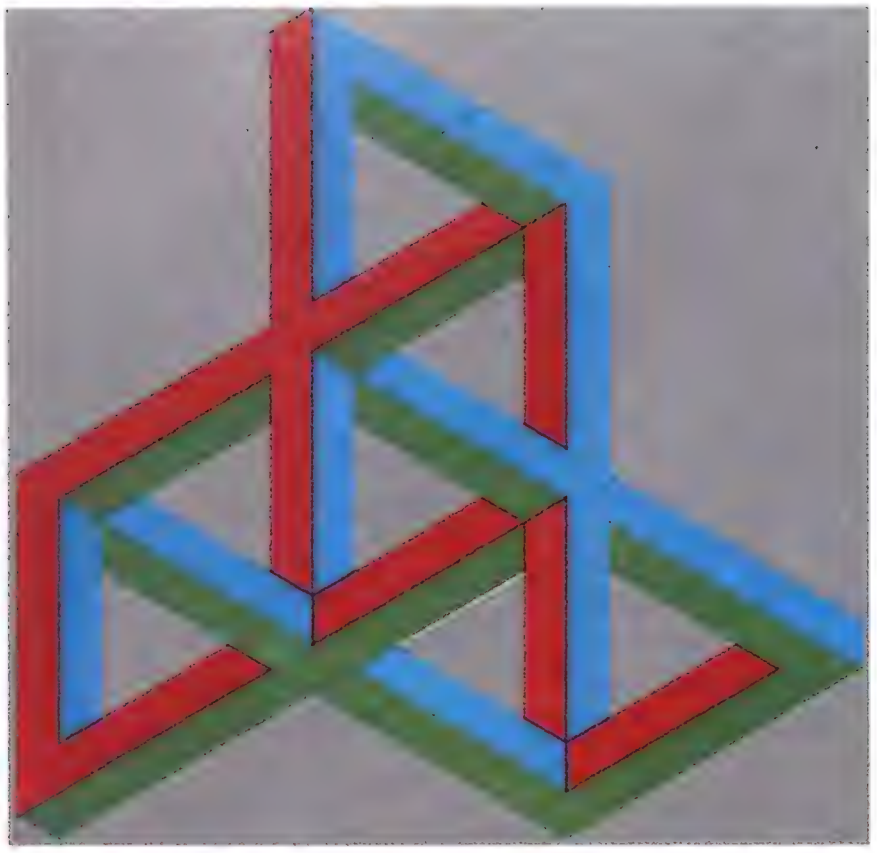
After programming fractals at IBM for one year, McKenna is now striking out on his own as a computer artist. With his reddish beard and eyes made large by his glasses, a habit of precision and a quietly comic manner, McKenna probably comes as close as anyone to looking the part. Yet he has his doubts about the label. "What I am doing is not quite art and it is not new mathematics, but a synthesis. Computer art is a bad term. Most artists are afraid of computers except for a few who are discovering how wonderful they are," he says. "That's why I call it Mathemesthetics, I guess." Well aware of the sheer pleasure fractals evoke, he hopes to turn them into a variety of designs, from fabrics to architectural ornamentation to fine art.

McKenna has a library of "seed" shapes stored on the computer. He can take one out, glance at it on the monitor and then instruct the computer to repeat the pattern, with mechanically controlled ink pens that dance across a piece of paper. The results are pure abstract images that attract your gaze and attention. Some are "replicating tiles" or "reptiles" for short. Others are boldly colored mazes. "I should have been a hedge designer," McKenna laughs, "but I was born in the wrong century." He also works with ornate spiraling forms, creating "dragon curves" that would be worthy of St. George (p. 117).

Loren Carpenter was working in computer graphics at the Boeing Company in Seattle when Mandelbrot's images inspired him to action. "I saw the picture of the mountain range and said, Hey, I've got to do this! But the methods Mandelbrot uses are totally unsuitable for animation, for making a picture where you stand in the landscape," Carpenter says. So Carpenter used his own techniques that allow the viewer to move



By using a process modeled on earthquake faults, computer generates oceans, continents, ice caps.



Artist Doug McKenna used fractals to create illusory shape that could not exist in three dimensions.

around in the landscape, using mathematical shortcuts to produce many images quickly. Carpenter made an animated film to demonstrate this technique; it won him a job at Lucasfilm—and the irritation of Mandelbrot, who disdained these shortcuts.

Shortcuts or not, random fractals capture the texture of reality. In another three or four years, Carpenter expects computer graphics to replace some movie sets and models. The lure is making the impossible look real. "You can re-create the pyramids. Or a civilization from another planet. You could change colors, twist or deform shapes, do things that are completely fantastic," he says.

The true beauty of fractals is that they describe the pedestrian as well as the fantastic. But the practical uses of fractals have developed at a slower pace. "A lot of people say, 'Okay, so you have a new name for these things, you call them fractals. But what can you do with them?' " says Alan Norton, a former associate of Mandelbrot's who is now working on computer architectures at IBM. It is a question currently being asked by physicists and other scientists at many professional meetings. For a young idea still being translated into the dialects of each scientific discipline, the answer, Norton says, is: Quite a bit. The fractal dimension (a number expressing the complexity of a particular fractal form) may give scientists a way to describe a complex phenomenon with a single number.

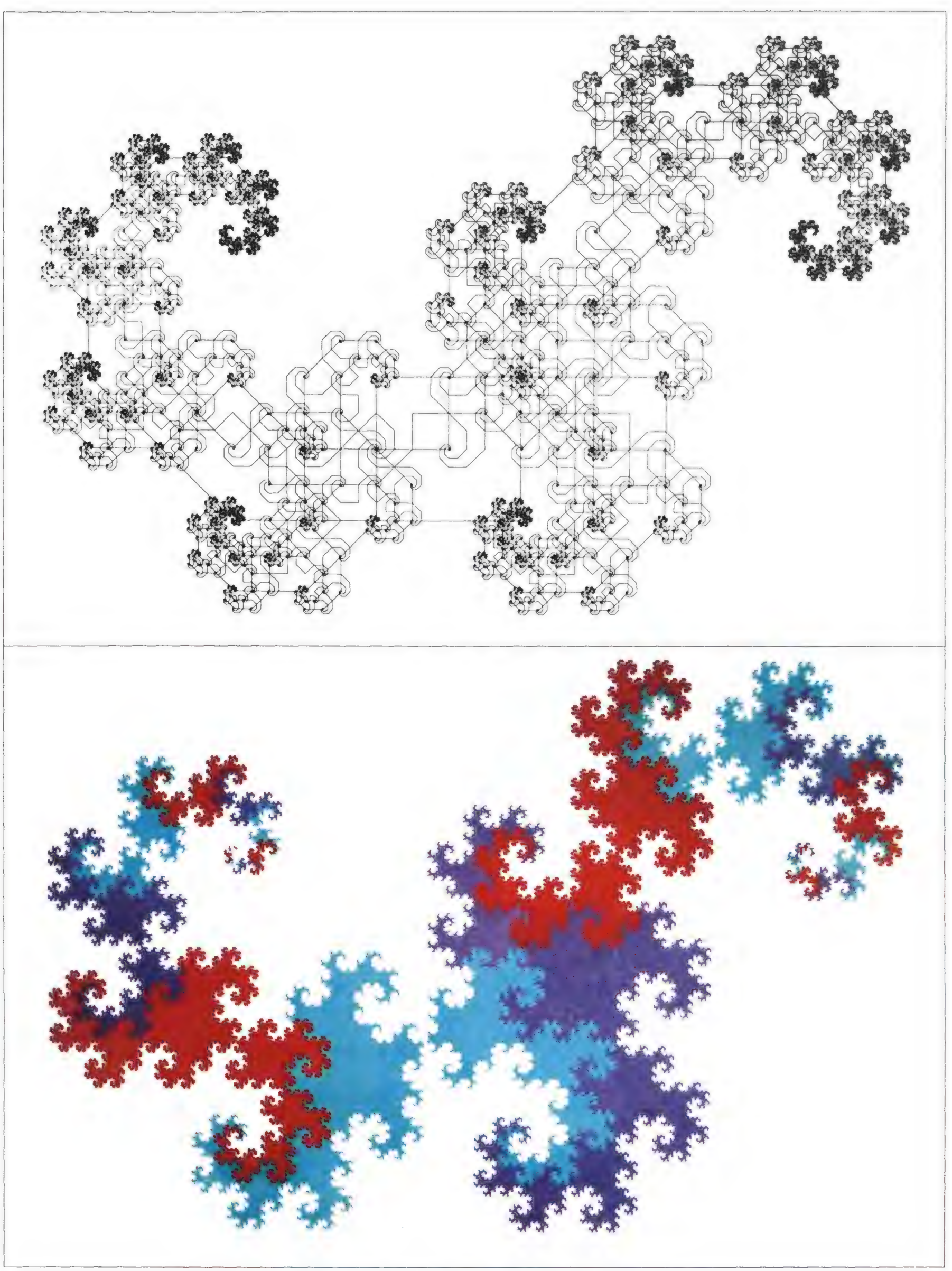
Harold Hastings, professor of mathematics at Hofstra University on Long Island, is enthusiastic about modeling the Okefenokee Swamp in Georgia with fractals. From aerial photographs, he has studied vegetation patterns and found that some key tree groups, like cypress, are patchier and show a larger fractal dimension than others. In analyzing shapes that are hard to describe with any exactness—"patchy" ones, for example—using fractals may provide a more precise measure. Eventually, he hopes that slight and unexpected changes in the fractal dimension of key species can be used as an early-warning system for harmful disturbances like pollutants and acid rain.

Shaun Lovejoy, a meteorologist who works at Météorologie Nationale, the French national weather service in Paris, confirmed that clouds follow fractal patterns. Again, by analyzing satellite photographs he found similarities in the shape of many cloud types that formed over the Indian Ocean. From tiny pufflike clouds to an enormous mass that extended from Central Africa to Southern India, all exhibited the same fractal dimension. Prior to Mandelbrot's discovery of fractals, cloud shapes had not been candidates for mathematical analysis and meteorologists who theorize about the origin of weather ignored them. Lovejoy's work suggests that the atmosphere on a small-scale weather pattern near the Earth's surface resembles that on a large-scale pattern extending many miles away, an idea that runs counter to current theories.

The occurrence of earthquakes. The surfaces of metal fractures. The path a computer program takes when it scurries through its memory. The way our own neurons fire when we go searching through *our* memories. The wish list for a fractal description grows. Time will tell if the fractal dimension becomes invaluable to scientists interested in building mathematical models of the world's workings.

Whatever the purpose, fractals touch the imagination in a way that no other computer-generated image has. "They produce unprecedented visual effects. They are pure art, pure playthings," says Bill Gosper. But their images have changed the world of mathematics as well. Mandelbrot explains: "Imagine 100 years ago that singing was outlawed and a great science of analyzing scores arose. Now think that 100 years later someone looked at these scores and found that they were really much more beautiful and accessible when sung. Beautiful opera scores were appreciated by only a few but beautiful music was appreciated by everyone. I have done that for branches of mathematics." Who would disagree?

McKenna's artful dragons illustrate the basic fractal property that the larger pattern is composed of smaller and smaller elements, which all have the same shape.



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By Jane Howard

One school where the final exams are easy to swallow

The Culinary Institute of America prepares young cooks to bake, broil and braise their ways into kitchens as skilled professionals

Vive la différence: Chef Phyllis Flaherty, left, shows author why broccoli velouté isn't cream of broccoli.

On the stainless-steel table before me are eight cups of fragrant, garnished light-green soup. In my hands are two small plastic spoons, the kind ice cream parlors offer samples in, one for serving and one for tasting. Around my neck I wear a cotton kerchief, as yellow as a taxi. So do the 18 real students in this room, who made these soups and who are letting me pretend I am one of them this morning. These neckerchiefs not only look perky, but they protect our voice boxes: our work might require us to rush between 120-degree kitchens one minute and icy freezers the next.

I also have on a white jacket, a white apron with a towel draped over the belt to serve as a pot holder, and a disposable white paper toque (above). The hat's 100 pleats, one story goes, represent either the number of ways a good chef can fix eggs or the number of days of mourning after the death in 1935 of the legendary French cook Auguste Escoffier. If I were a real student, I would also wear checkered pants, which show less dirt than black ones, and keep my hair either cut short or in a net. Sanitary regulations are no joke here at the Culinary Institute of America in Hyde Park, New York, known informally as either "the other CIA" or simply as "the Culinary." (The first syllable of the word is pronounced "cull," not "cue.")

So many cooks but no spoiled soup; class in Advanced Buffet Catering shares final project with comrades.

The $13,000 tuition for the 21-month program leading to an Associate in Occupational Studies degree covers room, board, books, uniforms, laundry, insurance and knives. Knives are engraved by the students and carried around in kits. The kits make me think of a line from a poem by Gerard Manley Hopkins: ". . . all trades, their gear and tackle and trim." Perhaps Hopkins comes to mind because he was a priest, and this 75-acre campus, near Franklin Delano Roosevelt's boyhood home, used to be St. Andrews-on-Hudson, a Jesuit seminary. The Culinary Institute moved here in 1972 from its outgrown headquarters in New Haven, Connecticut, where it was founded in 1946 mainly to teach the cooking trade to veterans under the GI Bill of Rights. Now it has an enrollment of 1,850 students, all of whom have at least a high school education and a year's experience in what is here referred to—all one word—as the "foodservice" industry.

At a time when many colleges face a 40 percent dropout rate, the CIA has a year-long waiting list. The four 15-week periods on campus are interrupted by a salaried 18-week "externship" in some approved restaurant where at least 51 percent of what is served is prepared from scratch, and where there is a resident executive chef to provide enough "hands-on training" to offer "a real learning experience."

CIA graduates can expect four or five job offers, minimum starting salaries of $15,500, and a lot more respect than cooks used to get when it was thought that oafs who weren't good for much else could always find

Photographs by Richard Howard

School for cooks: 'the other CIA'

Batter up—and into tins for carrot cake in beginners' baking class. In waste-not spirit, cake will be eaten.

work with food. The thinking here is that since chefs study at least as hard and long as nurses and accountants, they should be registered or certified and treated with the dignity their counterparts have in Europe. Some prominent alumni are Jeffrey Brown, executive chef of the Royal Household in Jordan; Larry Forgione, until recently executive chef of Brooklyn's River Café; Marcel Desaulniers, co-owner of the Trellis in Colonial Williamsburg, Virginia; Mike Muzyk and Bruce Egdahl, chefs at New York's La Côte Basque.

"We're elitist here and proud to be," says Ferdinand E. Metz, the CIA's president, in whose office a clock plays "Ave Maria" on the hour. It pleases him that Americans have grown so much more discerning about food than when he came here in 1962, at age 21, from his native Munich. "On a one-to-ten scale," says Metz, "I'd say that American attitudes toward food were a five then and an eight today. What happened to food in the Sixties was awful. Spinach and peas were taken to the steam table at 10 A.M. and not served until noon, with all the color and flavor and texture leached out. People won't put up with that any more."

A new generation is coming of age, says Metz: "McDonald's and Burger King customers, accustomed to spending 50 percent of their food dollar outside the home, are moving into higher income categories, and knowing enough to send things back if they aren't prepared properly."

"Some of these guys get really mad"

Someday, maybe, fast-food establishments will offer soups to match those we are sampling here today in Chef Phyllis Flaherty's morning course in Culinary Skill Development. In her class I am learning the difference between cream of broccoli and broccoli velouté (the latter, with yolks added to the cream for the *liaison*, has a richer, smoother texture), and agreeing that sautéed croutons taste better than those broiled or made in a salamander. I am also observing Chef Flaherty's techniques with another raw material: her students. "Some of these guys get really mad," she says, "if you tell them they're doing something wrong. They say, 'But that's the way my mother did it.' It's no good insulting their mothers."

Those whose mothers have picked up after them all their lives are in for an abrupt surprise when they encounter the CIA's strict rules about *mise en place*, the organization of the workplace. Disorder, in these kitchens, is not countenanced. "What I won't put up with from my five-year-old son," says Phyllis Flaherty, "I won't put up with from these students."

Most CIA students are in their early 20s and three-quarters of them are male. Women, traditionally, were no more welcome in professional kitchens than they

Katrina Buchholz, left, Lance Clark, Susan Pais had to unmix their prematurely mixed carrot, leek, celery dices before simmering for soup. Because vegetables' cooking times vary, combining them to cook is a no-no.

were in coal mines. Twenty years ago women were not encouraged to do anything in a restaurant kitchen but stir stocks. The pots, it was said, were so heavy that only men dared lift them. Even now, with lighter pots and changing attitudes, the first female hired in any old-fashioned kitchen will face hostility.

"Women are cleaner and more articulate, and can handle heat and physical stress better than men can. You don't have to be a man to do this job," explains Chef Flaherty. "It's a desk job more and more, especially if you're an executive chef. Still, I'd like to have a job for about a week where I could get all dressed up and wear long fingernails. If I work all day like a man, I like to go home and take a bubble bath."

Her students, I remark, look slimmer than a lot in other classes I've seen at the Institute. "That's because for them this is only Day Four," she says, and so it is. Twenty-one months hence, when this group marches forward in Alumni Hall for one of the 16 graduations the CIA holds every year, chances are that a fair number of them will have gained a pound a month and look as stereotypically rotund as many of the graduates whom I watched get their cordons and diplomas last week. No wonder: it is rare to go for an hour around here without being offered a bite of pâté, a taste of soup, a fresh croissant. The CIA spends nearly $3 million a year on food, runs four commercial restaurants on campus, serves 4,000 meals a day, insists that everything cooked in classes be eaten—and sells candy bars, apples and yogurt in vending machines.

Buffet frills: Charles Pizzo puts carrot "tiger lily" into squash "vase" with turnip, radish, leek "blossoms."

Wielding a chain saw, Chef Stephen Beno hacks a swan from a block of ice at a chilly evening demonstration.

The constant motion, at a tempo evoking a 1920s Charlie Chaplin movie, is probably what keeps the students from blimpdom. To say that this place has about it an air of transition and flux is like saying that the Hudson River, a short walk down the hillside, is moist. "I met more people in my ten months here," says instructor Paul Prosperi, who teaches baking, "than in all my previous lifetime." Every three weeks 72 new students replace those who have just graduated. Practice sessions are held here for the quadrennial International Culinary Olympics; four of the 12 Americans competing for seven days next October in Frankfurt am Main will be from the CIA. A contingent of 33 cooks was sent here last year from Bombay, by the hotel chains they work for, to learn American production techniques. Dozens more professionals will be attracted for varying periods to the Continuing Education Center, now going up next to the main building, "to learn," as a brochure puts it, "advanced techniques in management and supervisory skills, culinary theory and principles, and nutritional cooking for the '80s."

"This whole thing with tofu, as far as I'm concerned," says Ferdinand Metz, "is fantastic"; he finds tofu an infinitely more appetizing source of soy protein than the repugnant hamburger extenders of a decade or so ago. Oriental chefs, he notes, stretch a pound of meat to serve ten people, not two or three the way Americans do. Although he himself lost 40 of the 215 pounds he once weighed simply by cutting down the size of his portions, Metz is convinced that "dietary cooking is where it's at. If you promise health, longevity and good looks, fine, but it better taste good. The taste area's going to be very important in the future."

Contestants for the American Culinary Federation's ten-day Master Chef program, who come to the CIA from all over the country hoping to qualify as certified masters, are required to prepare menus for cardiovascular, low-sodium, bland and diabetic diets as well as to show their more extravagant stuff. (Dare we to hope they might apply their wizardry to menus served on airlines?) These professionals may already have salaries in the $50,000 range.

Only half the applicants for Master Chef status generally make the grade. Among those who have are Byron Bardy, senior experimental chef for the H. J. Heinz Company; Anton Flory, executive chef of Topnotch at Stowe in Vermont; Richard Schneider, chef-owner of New Jersey's Silver Lake Inn; Milos Cihelka, executive chef at the Golden Mushroom in Southfield, Michigan; and—of course—Ferdinand Metz. Just now, a few doors down from the class I have come to think of as Elementary Broccoli, the survivors so far among this term's contestants are finishing their breathtaking garde-manger (cold food) displays, each prepared with the help of CIA student apprentices. Metz and three other judges appraise each display with the solemnity of Talmudic scholars (p. 128). One entry, a Breast of Veal Echalote, is marked down because the sliced cherry tomatoes ought to be reversed, without the seeds showing. Another is downgraded for showing a fish with its head chopped off. One year a chef was penalized for having lost his temper when his apprentice forgot to cook a side dish of rice; the masterly response, says Metz, would have been to feign calm and prepare some standby noodles.

All the while, the students scurry around in white toques and jackets from classes in Oriental foods to

Fred Von Husen takes "all but the oink" from pigs' heads, center front, for sausage; hollowed heads at left.

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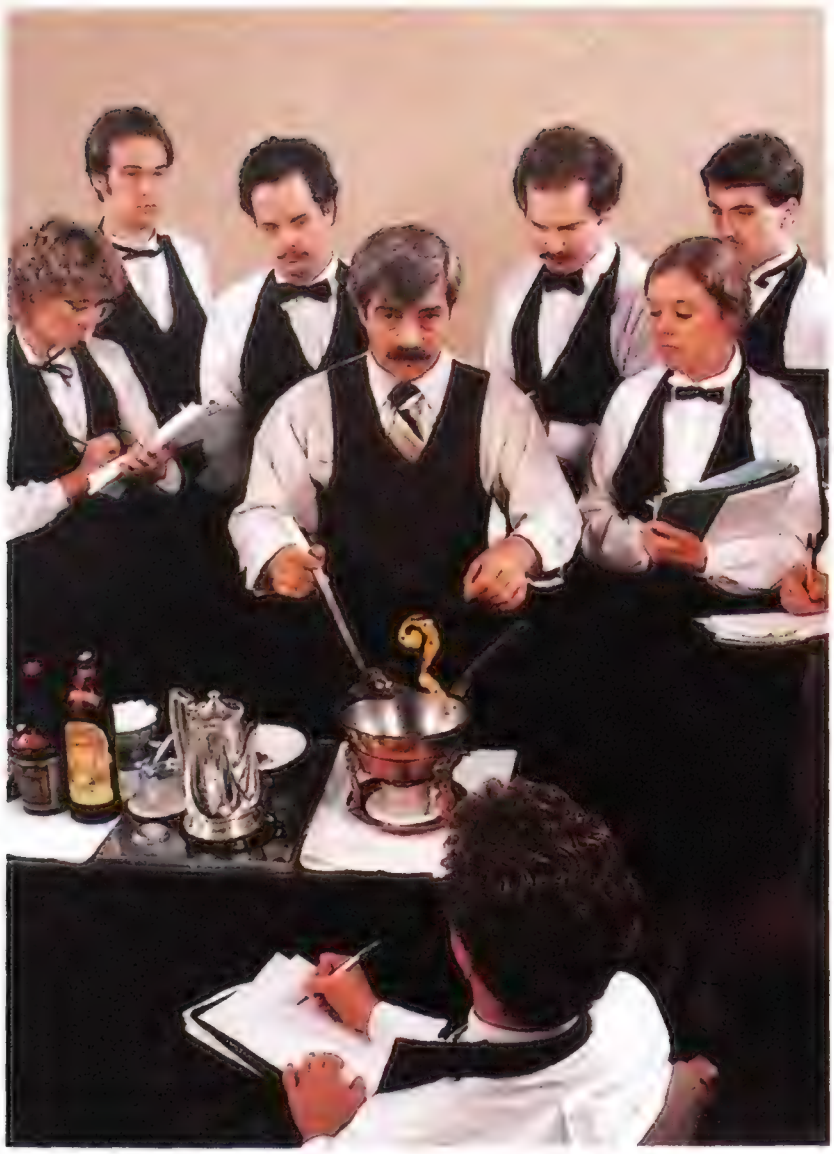

Basting clove-studded citrus rinds with cinnamon and cognac, Ivan Salgovic demonstrates coffee diablo.

White-coated Henry Iles leads a fourth-semester Wine Appreciation class in an inspection for taste, color.

Garde-Manger to Advanced Cost Control Management Systems, where they use computers to prepare production schedules, cost summaries and budgets. The Learning Resource Center offers computer-assisted remedial sessions for students with deficient math and language skills. In the unit on Culinary French, they learn that *voiture* is not pronounced "voycher," and that Parmentier was an 18th-century alchemist who introduced the potato to France after doing time in a German prison camp.

They learn to identify and butcher meat, to sculpt from salt dough and to analyze and appreciate wine—and, in Supervisory Development, to confront hypothetical crises: how should a maître d' react if, for example, a customer arrives 45 minutes late to claim his reserved table? What should a chef say to a worker who spills five gallons of consommé? And what is the proper response of a general manager on discovering that the hamburger count is 75 short? ("Okay," suggests one student, "who took the sliders?")

When Metz himself was learning his trade back in Europe, nobody paid much attention to theory. "Just do it," his teachers told him. "Don't ask why." That's not how things are at the CIA, where students are assigned to do research in the 22,000-volume food-and-beverage library, which, as one librarian puts it, tells the "whys of cooking, what happens sciencewise." The library includes a rare-book room where the rarest and oldest book, printed in Latin in Paris in 1556, is *Athenaei Dipnosophistarum sive coenae sapientum libri XV*. It consists of a dialogue between two men at a banquet who talk for days on end about foods, famous epicures, noted personages and feasts of ancient Greece back to the days of Homer.

Those two men would feel at home here in Hyde Park, where the eavesdropping and the shoptalk are delicious. Tortellinis, somebody says over salad in the campus Sheraton Room, are God's belly buttons. Marinated loin of lion, another chef volunteers, tastes like pork. "Please make a chocolate sabayon with 'Happy Birthday, Vince, Mark and Craig,' for 9 P.M." reads an order in instructor Helmut Loibl's class in Advanced Baking. Lucky Vince, Mark and Craig (are they triplets?). As one Loibl student decorates their birthday cake, another fusses over the smile on the mouth of a marzipan mouse and a third trains a hair dryer on his lighthouse made of sugar.

Nearly all notices on bulletin boards here, advertising Institute and neighboring events, concern the ali-

Jane Howard wrote most recently for SMITHSONIAN *in April 1983 about anthropologist Margaret Mead.*

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THE ONE TO WATCH

Student John Brazie ladles sauce—strawberry liqueur, raspberries, egg yolks, oil—into a honeydew "bird."

Expert chefs join CIA President Ferdinand Metz, left, to judge buffet catering in Master Chef competition.

mentary canal. The Bartenders' Society meets tonight for a demo of coffee cordials, 50 cents for nonmembers. Chef Dieter Faulkner is giving a talk on kosher, and on Monday there's an optional film on stress reduction. The Kraut Packers' Association is sponsoring a recipe contest. Tomorrow is Sushi Tempura Night at a restaurant up the road in Rhinebeck, and next week there will be a Run to End Hunger for Meals on Wheels in Ulster County across the river. Maybe someone from here will take part in that run, though I haven't yet noticed any Culinarians jogging along the Hudson.

"Best nose I've had in years"

In his Charcuterie class, instructor Fred Von Husen is presiding over the dismantling of the pickled heads of four pigs. "You look for a little hairline crack in the skull," he says, "and 95 percent of the time it'll all come out intact. You make sure the nose bone's out, and the eye, and remove the eardrum. It's hard to get the hairs off around the mouth. You'd think the nose is fat, but it's a tender piece. Here," he says to a student, "have some."

"Best nose I've had in years," says the student.

"Cheek meat's the sweetest meat there is," the chef says. "As you can see, we use everything but the oink. Corning and pickling and smoking go back to before refrigeration; it makes you think of Medieval times."

So does ice carving, which the fifth-term students learn in Advanced Garde-Manger. "Breathe, *breathe*! Hyperventilate!" says Chef Michael D'Amore as his students wrestle with their 100-pound ice blocks from which the more ambitious sculpt swans or fish for the adornment of buffet tables, and others carve 20-inch wineglasses to help keep food and drink cool. "If you're making something symmetrical," he tells them later, "get down on your haunches to make sure how it looks. Remember the mustache theory: if you cut off too much, you'll have no mustache left." As with mustaches, so with ice sculpture.

After graduation exercises, the Banquet Organization class serves a stupefyingly festive lunch to the graduates and the three guests they each are allowed to invite (p.131). Earlier that same week they have been serving elegant meals themselves to paying customers in the two fanciest of the four public restaurants the CIA runs, all staffed by students. Sometimes 100 phone calls a day ask for reservations at the American Bounty, where U.S. foods and wines are featured, and the Escoffier Room, where the mode is *haute cuisine*. The Sheraton Dining Room, for students and their guests, and the Wechsler Coffeehouse offer fine à la carte and short-order fare.

"People come here for meals expecting a religious

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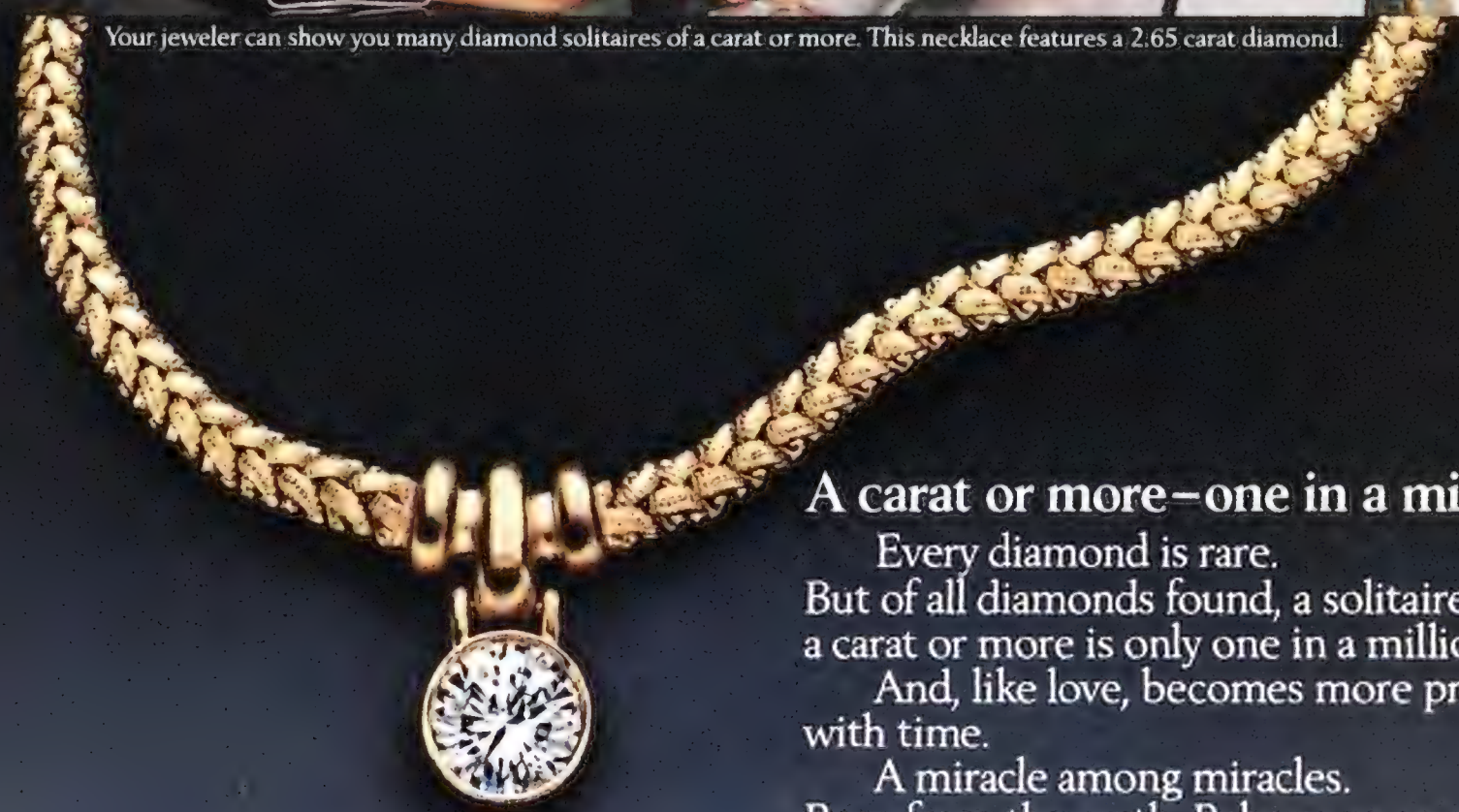

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A lucky visitor at graduation luncheon ogles a tray of delicacies prepared by Banquet Organization class.

experience," says Phyllis Flaherty, "but they have to remember there's a complete change of staff every seven days." The service can be uneven. "I'm Kevin," says a student in the American Bounty, dressed in a handsomely cut deep-green V-necked apron. "I'll be your captain tonight; please let me know if you have any questions." Kevin might wish he were in the "back of the house" making the Red Wine and Black Peppercorn Sauce for the Roast Duckling ($10.75), or the Warm Blueberry Cobbler with Wild Turkey Sauce (for two persons only, $2.50 per person). If he hasn't been, he will be. Everybody takes a turn at cooking and serving. One evening my wine steward confessed that his own preferred beverage was Budweiser—fair enough. The only jarring note for me was the Muzak; in so elegant a setting it would seem a lot more fitting to hear someone play the piano or, maybe, as one CIA staff member suggested, a harp.

One afternoon I crossed the Hudson to marvel at the lush and historically rich countryside, and to get some perspective on "the Culinary" from John Novi, whose 1797 DePuy Canal House in High Falls is widely regarded as the finest restaurant in the region. "I'm disheartened by the CIA's emphasis on the word 'industry,' " Novi told me as I had a second cup of his Apple Ginger Soup with Cheddar, "but they offer several courses there I'd love to take myself, and over the years I've had a lot of wonderful people from there working in my kitchen."

"Culinary people are so forceful"

As good as the CIA is, plenty of fine cooks get their training elsewhere. The Johnson & Wales College, in Providence, Rhode Island, graduates 700 culinarians a year; the California Culinary Academy in San Francisco, 200. Peter Godoff, a Manhattan cook who once "got a $10 tip for a soufflé I made at Le Perigord Park and was on a high for days"—and who is now going into the sorbet business in hopes of saving enough to start his own restaurant someday—is among the 250 who annually learn their trade in a four-month program at the New York Restaurant School, a branch of the New School for Social Research. After six months at Le Perigord Park, Godoff cooked at a fashionable but, he decided, "disappointing" New York restaurant with Chester Miechkowski jr., a 1982 CIA graduate who is hoping to open a restaurant of his own in Connecticut. Says Miechkowski: "There's a stigma that Culinary people are so forceful that they don't want to listen to anyone else's opinions. It was drilled into us that this was the only way to prepare food. Still, I'd recommend the CIA to anybody seriously interested in food as more than a hobby."

Nobody could be more serious, or more ebullient,

than Chef John DeShetler, an authoritative endomorph who looks a decade younger than his 37 years, who says his specialty is "trying to be good at everything," and who tries in his Experimental Kitchen to "get students affiliated with what they do in the kitchen: a day of meat, a day of basic roux and thickening agents, gearing toward the cookbook, to what has been discussed, to prove a point.

"I've got a thing going in terms of avocados," he continues. "We've always thought you should add some kind of acid like lemon or vinegar to keep guacamole from turning brown. But I've found that some Florida avocados stay green longer without the acids. It's the variety that makes the difference."

One of DeShetler's students approaches, looking worried, holding a panful of Hollandaise ingredients in, as it were, midstream. "Is this stuff supposed to ball up like this?" the student asks.

"You," the chef assures him, "are going to have a good emulsion."

Graduation ceremony in CIA Alumni Hall (formerly a seminary chapel) finds the latest graduates on display onstage; their guests sit at elegantly set tables where all will feast on meal prepared by fellow Culinarians.

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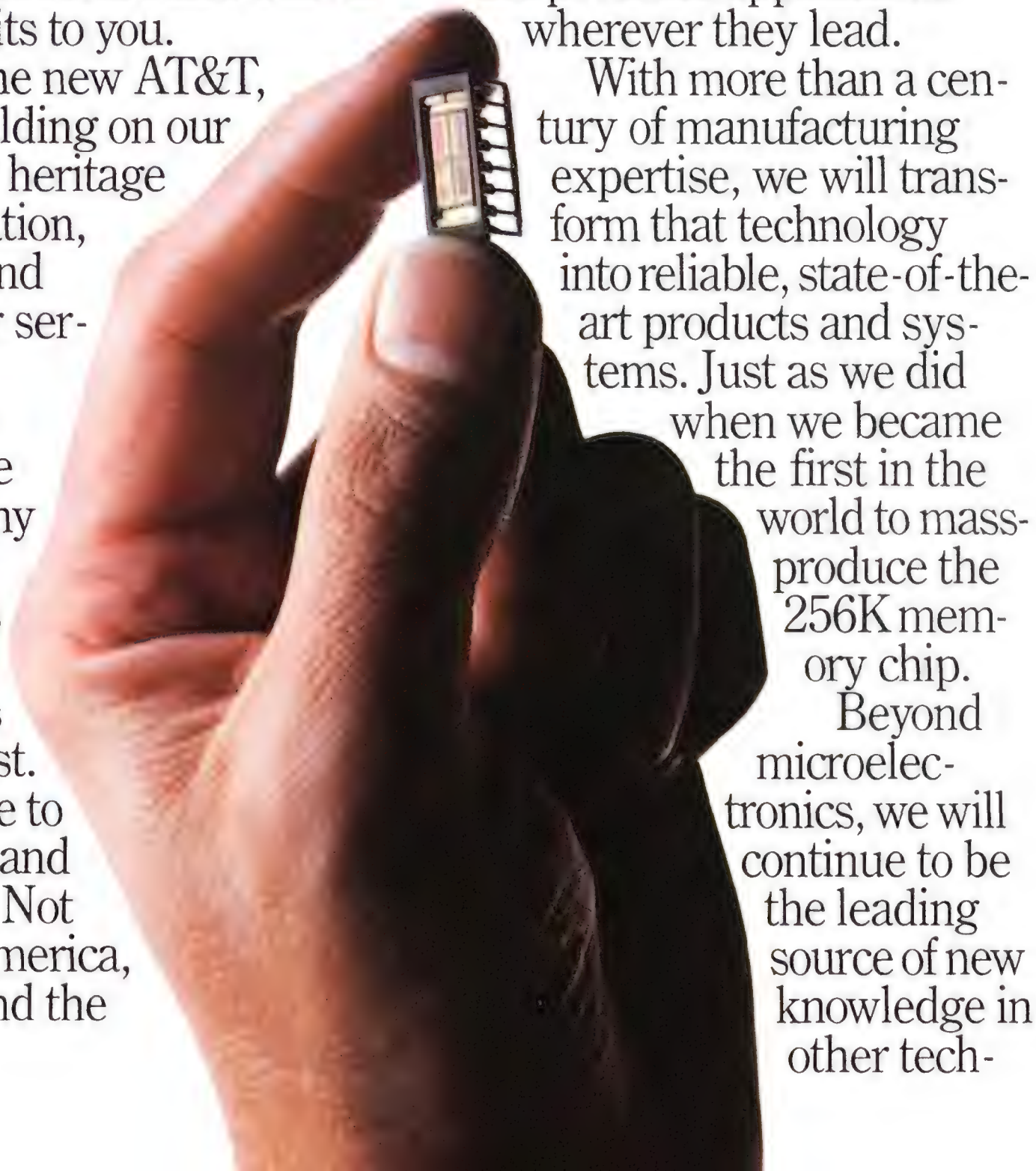

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By Ben Forgey

You can range-ride or rope a steer in this work of art

Nestled in 320 acres of the Rocky Mountain foothills, a grand project entitled Ranch *is a dream come true for artist Alan Wood*

To say that the life of the painter Alan Wood has been a journey into the West sounds a bit cornball, like the ending of many an old cowboy movie. Nonetheless, it's true. Wood, 48, was born and raised near Liverpool, England. Today he is, by choice, a Canadian citizen, living in Vancouver, British Columbia. His painting, always influenced by the landscape, has been deeply affected by the distances and the rawness of Canadian terrain. And his latest project is as big as all outdoors, a work he calls, simply, *Ranch*.

It is an amazing thing, Wood's *Ranch*. Situated in the forested hills and rolling grassy valleys of a privately-owned 320-acre part-time cattle ranch in the foothills of the Rocky Mountains 25 miles southwest of Calgary, the work consists of a dozen large tableaux constructed of wood and mainly wrapped in painted canvas—paintings about the landscape, and in it. Though this particular landscape is heart-stoppingly beautiful without the art, the pieces of *Ranch* add a strong, clear note of their own, collectively and separately, in the spacious surround.

Wood conceived of *Ranch* as a sequence of "stations," each offering a dynamic commentary upon, and counterpoint to, the natural environment. The scale of the work is vast, and can only be suggested by statis-

One of a series of three-dimensional tableaux, birds made of painted boards seem about to be airborne.

Photographs by Mark Kauffman

Jon Kusnir hangs painted panels for "Field Fan." Young workers jumped at the chance to participate.

The vibrantly colored "Field Fan" is one of a dozen interconnected sculptural works spread over the land.

tics: 150,000 board feet of lumber were used, some 60,000 yards of canvas and more than 1,200 gallons of paint. The real test is for the foot—it takes a challenging four-hour hike to see each of the stations close up—and the eye. Each element exists in constantly changing relationship to the viewer, offering a series of exhilarating surprises as colors and forms appear and disappear in the landscape. And because the stations are, in a very real sense, three-dimensional paintings, each is wonderfully responsive to changes in the light. It is safe to say, I think, that no painting in history has been so blessed by natural light.

A horse-and-rider apparition

The first thing one sees, driving up the road leading to the cattle ranch, is a horse and rider stepping suddenly into a pasture from a copse of trees (p. 140), at once an apparition and a fitting introduction to what is to come. Horse and rider are meant to be seen from a car, quickly, like a billboard.

The remaining pieces can be seen only on foot. Listed more or less in order (for the hiker must make choices) they are: the "Corral," an assortment of brilliant-colored fences, gates and chutes set in an open field, with those multicolored three-rail fences stretching into the distance; the "Haystacks," consisting of a zigguratlike bale stack, three conical stacks right out of Monet's paintings (p. 138) and three cylindrical rolls; the "Bridge," another apparition, this one seemingly transported from Monet's gardens in Giverny; the "Rainbow Fence"; the "Geometry" station, with a 30-foot-high windmill and geometrical troughs, all painted starkly white (p. 143); the "Barns," a series of five structures with gently canted roofs, ranged up a hill in descending sizes, as if in a perspective drawing, but colored in a contrary way so that the littlest one, bright red, pops forward optically; the "Soaring Birds" and "Field Fan," the latter a flat, quarter-circle construction sliced into wedges of differing hues, like a giant abstract painting or irrigation patterns seen from above (left); "Ranch-henge," an array of vertical and horizontal markings in low scrub brush near a beaver marsh, a piece the artist likens both to Stonehenge and to an actual petrified corral he discovered in his wanderings through the harsh Cariboo country; "Homestead," an ensemble of deserted cabins, barns and corrals hidden behind a rough hill; and "Township," a movie-flat ghost town which stands in an amphitheater-like clearing (p. 138).

There also are three "Teepees," constructed on the site by a group of Blackfoot Indians at Wood's invitation and painted red, yellow and blue to his specifications. ("I was going to build them myself, but when I got here it just seemed arrogant," he explained.) The

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Artist's assistants Maria Vanderham, left, and Barbara Mortell take time out at the "Township" tableau.

Wood is an admirer of Monet's famous *Haystacks* series and here pays homage with haystacks of his own.

Stack of hay rolls, other forms were prefabricated in a studio on a Rube Goldberg-type machine.

fences are a special category—stripe paintings in the land that establish crisp and magical connections between the various parts of the vast, joyous and incredibly complex work.

Ranch was open to the public during much of August, while it was being constructed, on through September, when it was completed. Wood and his assistants will continue to document the work through the changing seasons, but the artist is ambivalent about opening it for public view again because of maintenance and supervisory costs. (There was some vandalism during the initial visits.) "We've either got to abandon the idea completely or else do it properly," he said. "It would take a whole new kind of financing for parking and docents and repair."

Wood is a stocky man with whitening hair and a ruddy, rough-hewn face, whose body language exudes a pent-up sort of energy. He feels and looks at home in jeans and Western boots—a pair of boots, in fact, is the first important purchase he remembers making in North America. It was, he admits, a gesture made to satisfy a longing he had acquired during the afternoons of his boyhood, watching Western movies in Widnes, a manufacturing town near Liverpool. But the gesture was a harbinger of change in Wood's life. "The boots felt comfortable the minute I put them on," he said.

A lasting landscape image

The artist's first extensive visits to North America in the early 1970s were mainly about art, but with Wood, art and the landscape of his life are closely bound together. Although in England, scarcely less than in the United States, the 1960s were a time of triumphant formalism and abstraction in painting, Wood stubbornly held to his idea that the landscape offered the key to his artistic imagination.

Wood was by no means hidebound about this seemingly conventional preoccupation. As a young painter he kept himself enthusiastically abreast of the latest art in England, France and the United States, searching for ways to make landscape painting work in terms that he could accept. To this day there remains something of the tough, ironic urbanite in Wood's persona, and very much that is cosmopolitan and sophisticated in his art. He is as much at home in Manhattan's Soho, where he tries to maintain a studio, as in Vancouver or the Canadian wilds. But it is hardly surprising that when he crossed the Atlantic to experience firsthand "the great scale and humor and toughness" of American painting, and to learn its sources, he ended up by finding a new landscape and a new home. Wood immigrated to Vancouver in 1974.

With hindsight it is relatively simple to trace the development of the ideas and forms of *Ranch* in

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In fact, a case could easily be made for purchasing a BMW 733i on economics alone. But that would misrepresent the car. Actually, no other luxury sedan in the world so thoroughly delights both the driver and the passenger in you, while incidentally pleasing the accountant.

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But the case for the 733i was perhaps best made by Autosport magazine, which, describing a test drive, wrote of "the pure song of an in-line six than which there is nothing nicer."

There are simply some songs one should experience for oneself.

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The first tableau to confront the spectator on entering the ranch is the towering cowboy astride his horse, coming out of a birch grove. Wood had a soft spot for cowboys from early days in England.

Wood's art and to recognize at least some of its sources in the art of others. With hindsight, we can see even so astonishing an effort coming with the fast simplicity of a train across the prairies. Even before he arrived in North America, Wood's painting had a large scale to it, and he was deeply involved with color and with collage. For Wood, collage was not primarily a matter of excerpting images from the "real" world and placing them in paintings in the name of poetic or formal transformation. Collage, in Wood's work, has been more a matter of cutting, wrapping and interlacing materials (usually canvas) that he has painted himself.

This conception of collage as an element integral to the process of painting is important in the genesis of *Ranch*. One of the questions he is frequently asked about *Ranch* concerns why he went to the trouble, seemingly unnecessary, of wrapping all of that wood in canvas. He always explains about the quality of the colors he was able to get that way, and usually ends with a sort of quizzical, the-answer-is-obvious shrug. "I'm a *painter*," he'll say.

The missing link is the concept of painting, or collage, as architecture. This is a linkage with a long history in Modern art—Wood remembers being impressed by Schwitters' *Merzbau*, for instance, which was reconstructed after World War II in Langdale, England; and during visits to Washington, D.C., he became familiar with Sam Gilliam's architectonic suspended canvases. But it was also something that developed quite naturally from his own procedures and preoccupations. The very process of piecing together elements to make a painting is a structural enterprise and, in addition to that, there is something very architectural in Wood's attitude toward the landscape. In Wood's vision, landscape and artifice, the natural and the man-made worlds, reinforce each other.

In the spring of 1981 Wood made what seemed to be a natural step forward when, in three weeks' time, he created an installation called *Ranch* in the Charles H. Scott Gallery of the Emily Carr College of Art in Vancouver. It was a totally controlled, painted, indoor environment—a walk-in painting—including many of

Architecture and art critic Ben Forgey wrote about the Smithsonian Institution's Quadrangle museums, now being built, in the February 1983 SMITHSONIAN.

Color fence (foreground) is linear thread through thousands of feet, leading at one point to "Rainbow Fence" (upper right). *Ranch* took 60,000 yards of canvas, 150,000 feet of wood, 1,200 gallons of paint.

the elements (gates, fences, corrals) that would appear in the later work. Still, it is quite a leap from an ambitious gallery installation to a 320-acre ranch. The audacious idea was on his mind, though. "Next time, maybe, I'll build a huge painting in the actual landscape," he wrote in the catalog, as if daring himself to do it.

When one thinks of great land projects, the organizational example that first comes to mind is that of the peripatetic Christo, with his strategies of military complexity and his vast armies of workers. Wood's enterprise is somewhat simpler. It involved raising money, a lot of it, from private investors in the Alan Wood Ranch Corporation. Nearly $500,000 of the approximately $600,000 total cost had been obtained by early fall. In addition to charity tax benefits, each investor got five sets of five prints each that Wood had made (in editions of 200) as part of the documentation of the project. Proceeds from the sale of paintings, relief constructions and tableaux that Wood creates as a result of the *Ranch* experience also go to the company. And there will be a book of color and black-and-white photographs documenting *Ranch* in all seasons.

As usually is the case, it was a small, skilled, dedicated band of people which actually got the job done. The work force at the Rocky Mountain ranch last summer rarely numbered more than a dozen—art students, predominantly, and young people (including Wood's son, Danny) who jumped at the chance to work at $5 per hour in such fabulous surroundings.

And he was both wise and fortunate in his choice of principal assistants: Alan Wilson, 39, a longtime friend and former student of Wood's who had been running a restaurant near Vancouver; Lee Rome, 32, a contractor and real estate professional who had shared managerial responsibilities with Wilson in the restaurant business; and Mike Fitzsimmons, 27, an artist who had assisted Wood with the gallery installation. This resourceful trio was able to maintain a happy balance between logistical efficiency and existential harmony through the long work days at the ranch—no mean feat but definitely taking second place to their efforts during the winter of 1982-83, when they had made sure the thing could be done.

It is one thing to say, "Let's wrap 150,000 board feet of lumber with canvas," and quite another to do it.

A work of art you can ride a horse in

Artist Wood, born in the northwest of England, says that his first important U.S. purchase was cowboy gear.

Working in a warehouse in Burnaby, a city near Vancouver, Wilson, Rome and Fitzsimmons invented, and then constructed, a preposterous machine to feed the boards, cut the canvas and wrap it, staple wood and fabric together, coat the material with a Rhoplex primer and then dry the results—all of this in a continuous operation. With its conveyor belts, gears, rotating drums, knife-edge cutters, paint sprayers, enclosed dryers and exposed air ducts, it looked and sounded like something jerry-built by Rube Goldberg or Dr. Seuss. But it worked.

There is a great deal of understandable local pride in the beauty of the "foothills country," as they call it. "Lying between the harsh sweep of the prairies and the startling magnificence of the mountains, it possesses neither the stark beauty of the one nor the awesome grandeur of the other, but has a deep appealing loveliness of its own," wrote Sheilagh S. Jameson in an introduction to *Our Foothills,* a massive two-volume publication of reminiscences about an area that well into this century was frontier territory. The Rocky Mountain ranch commands this spellbinding terrain from the top of a high rounded hill. A first-time visitor can be forgiven for wondering whether or not Wood had taken on too great a rival.

"I don't see a need to add anything"

Some of the foothills people were skeptical, too. One Saturday afternoon last summer a woman drove up to the ranch house in a yellow Volkswagen Beetle and asked, assertively, "Where is it?" (meaning the art). When given the somewhat dreamy reply, "It's all around here, and it's beautiful," she snapped, "You don't have to tell me it's beautiful" (obviously meaning the countryside). "I've lived here all my life and I don't see a need to add anything." But after having the time actually to see what Wood was up to, many longtime locals responded directly and with some pride. Mary Dover, a foothills historian who belongs to one of the oldest ranching families in the district, told a reporter, "It's exciting to see the tradition portrayed as something vibrant, not decaying."

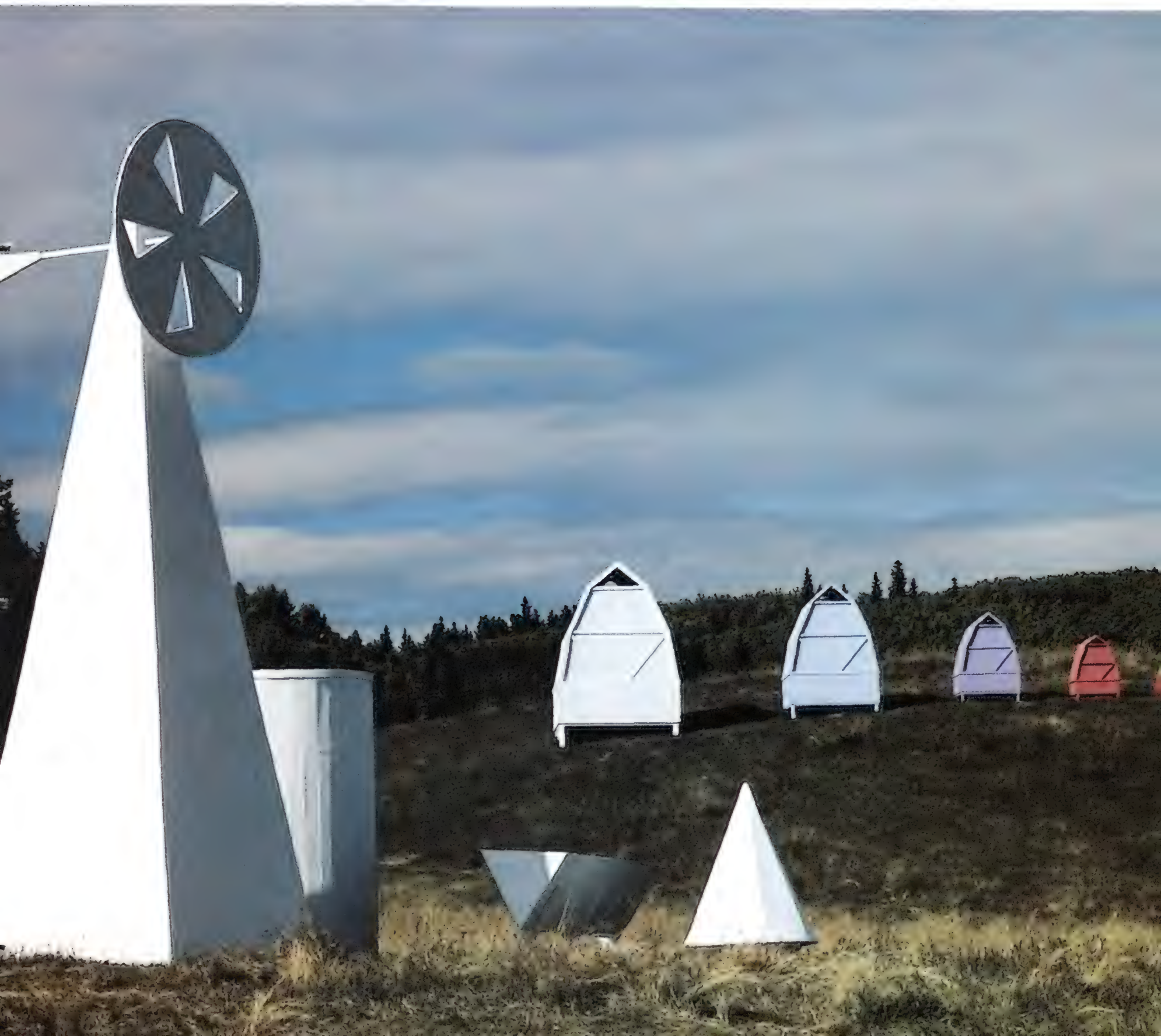
Wood readily acknowledges that *Ranch* would have been inconceivable without the prior example of American and British earth artists such as Robert Smithson, Michael Heizer, Richard Long and others. But he is irascible enough to protest, with reason: "People talk to me about Heizer and those guys, and that's okay, but once in awhile I'd like them to say, 'Matisse!' " If the landscape is the sentence in Wood's *Ranch,* then color is the verb, the prime agent that makes it go. High key, contrasty and non-naturalistic, but also soft and magical, Wood's colors move the eye continuously, enabling it to surprise the landscape and

catch it, if only fleetingly, in aspects that are wholly new. Photographs give the right impression of its effect: it stretches the eye.

Add this to forms that fit the spectacular setting and you have a big effort, a large expenditure of imaginative energy, a sizable feat of cross-referencing. There's a little bit of almost everything Wood feels strongly about in *Ranch*. There's a bit of the art-school kid in the quick color-perspective reversal of the "Barns," and something of the inspired teacher in the way he plays with basic shapes, as if he were slyly reminding us of Cézanne's famous dictum that "nature must be treated in terms of the cylinder, the sphere, the cone."

There is a lot of punning humor in the piece, too, and autobiographical references galore. Who other than Wood, the Englishman transplanted to the landscape of his boyhood imagination, would have or could have invented "Ranch-henge"? And though the work is replete with references to regional forms and habits—could it be otherwise in a ranch on a ranch?—there are, too, those wonderful, exotic reminders of Monet. Or are they so exotic? Monet's haystack paintings, Wood reminds us, are "basically about time." So, too, does Wood's big enterprise engage us with unforgettable directness in the contemplation of art and nature in the ever-changing light.

Abstracted forms of farm structures make up the "Geometry" tableau with 30-foot-high windmill, two feed troughs and a storage tank, all starkly white. Behind, five "Barns" recede in size, advance in color.



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Old China hand Floyd Tangier Smith said panda was purchased from his pal.

After a long expedition, Ruth Harkness claimed animal was found in the wild.

By Erika Brady

First U.S. panda, shanghaied in China, stirred up a ruckus

The press and public were thrilled with Ruth Harkness' precious find but her rival was up in arms

In 1869, Père Armand David, a Vincentian missionary priest and naturalist exploring the western part of China's Szechwan (now Sichuan) Province, reported to a Parisian colleague that he had seen the fur and bones of a strangely marked bear, "the prettiest kind of animal I know." He sent some specimen skins and skeletons to Paris, where the relationship of the *bei-shung* (*bei-xiong*)—Chinese for "white bear"—to the bear or raccoon families became a matter of scientific debate for years.

The animal in question was the giant panda, and outside the world of zoology it remained little known, except to elite big-game hunters, until 1936. That is when the first living specimen, an endearing infant called Su Lin ("something very cute"), arrived in the United States, touching off a spectacular media blitz. Americans have remained madly in love with pandas ever since, of course, but the story of how Su Lin was obtained is still one of the more perplexing mysteries in the annals of zoological expeditions—a tale as exotic and enigmatic as the giant panda itself.

The saga begins, improbably enough, with one William Harvest Harkness jr., the son of a New York City lawyer, a Harvard graduate (class of 1924) and a genuine all-American boy. An acquaintance described him as "a staunch companion; a gentleman and a sportsman; game to the core, and a clean 'straight shooter' in all his dealings with everyone." Harkness was also an intrepid

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adventurer with a decidedly zoological bent. In 1934, he captured several Komodo dragons in the then Dutch East Indies and delivered them alive to the Bronx Zoo in New York. After that, he started making preparations to return to the East in the autumn of that year. First, though, he took time out to marry a chic New York dress designer named Ruth McCombs. Drawn together by a shared interest in faraway places, the couple had known each other for years. Two weeks after the wedding, Harkness set sail with four of his companions. His

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"ESCAPE from the ordinary"

Wearing high socks, slippers and jodhpurs, Tangier Smith cleans a gun barrel in his gear-packed headquarters camp in China's panda country.

new wife stayed behind—reluctantly.

Harkness apparently gathered ethnological information in Borneo and then survived five days adrift without water in the Sulu Sea. Finally, he hooked up in Shanghai with a dramatic character named Floyd Tangier Smith and the two of them joined forces in an elaborate scheme to capture a giant panda.

Tangier Smith, a well-connected figure in China, was born in 1882 to blue-blooded American parents, educated in the United States and Japan and graduated from Bowdoin in 1908. After a decade in the banking and trading businesses in New York, Panama, London and Bombay, he settled in Shanghai, devoting more and more time to the daring outdoor pursuits he loved. He was able to start collecting and selling rare flora and fauna as a full-time career and by 1930 had achieved an international reputation for the volume and quality of his captures for Asian and Western zoos and museums.

Tangier Smith's appearance embodied the contradictions of his life. With his long face and fine features, he looked like a Classics professor—especially when he affected a trim graying beard. But his battered slouch hat, field blouse and jodhpurs conveyed the accurate impression of a vigorous outdoorsman. A terse self-description, probably written in the 1920s, summarized his experience this way: "farming, driving, riding and caring for horses. Cooking and chopping in logging camps. Blasting and handling men in log-driving camps . . . handling firearms, in big and small game and range shooting . . . Boxing and fencing. Speak French, some Japanese and a little German." His cockiness takes on a kind of defiance in light of the fact that he was cursed with lungs weakened by tuberculosis.

As a collector, Tangier Smith's supreme goal was to capture a live giant panda and take it to the United States. Despite the elusiveness of the

A writer living in Missouri, Erika Brady was with the American Folklife Center at the Library of Congress.

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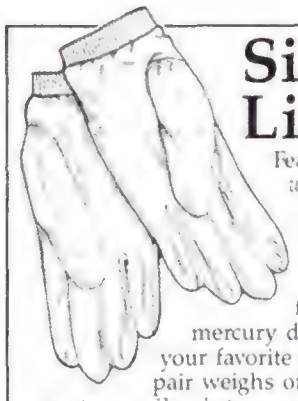
quarry and the difficulties in trapping and transporting it, he was certain that he would live to see his years of careful effort pay off.

Tangier Smith's confidence was not rewarded in the summer of 1935, when he and Harkness got their expedition under way. The previous fall, the Chinese Red Army had been routed from its strongholds in the south, and its legendary "long march" north to Shensi (Shaanxi) led through panda territory. The Nationalist government of Chiang Kai-shek was reluctant to let any missions enter the unstable region and so, although Harkness and Tangier Smith actually reached as far west as Kiating, now known as Luoshan, they were obliged to turn back. Eventually, official permission was obtained but by then it was too late for Bill Harkness. In February 1936 he lay dead in a Shanghai hospital at the age of 33, having never returned to the United States in the 17 months since his marriage. The cause of his death was variously reported as a viral fever, Hodgkin's disease, or a form of lead poisoning not uncommonly the result of romantic entanglements in the Orient.

Back in New York, Harkness' widow reacted to the bad news in a way that astonished her friends. She may have lost a husband but, as she put it, "I had inherited an expedition." Within two months she was on her way to Shanghai.

It was not entirely out of character for Ruth Harkness to assay such an extraordinary venture, given her lifelong interest in exotica and her thwarted desire to accompany her husband in the first place. But she certainly did not look the part of a rough-and-tumble expedition leader. Diminutive and elegant, she wore her dark hair parted in the center and drawn away from her face in a simple fashion that emphasized her angular cheekbones, strong brows and arresting dark eyes. Her hometown was Titusville, Pennsylvania, yet she ex-



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uded the sophistication of a suave Manhattan socialite. And as events quickly proved, she was determined to do what she wanted to do.

From the first, her reaction to China was enthusiastic and romantic. "There was a curious feeling in me that this was not an alien land, a strange and foreign country, but in some inexplicable way—home." The sense of homecoming did not extend, however, to her Shanghai meetings with Bill Harkness' associate in the ill-fated panda project. In her book, *The Lady and The Panda,* she describes in irritated detail her encounter with a character who is undoubtedly Floyd Tangier Smith, although she calls him "Zoology" Jones. "He was a boy of 55 or 60," she wrote, "a soldier of fortune, with adventure and success always just around the corner."

But although Ruth Harkness pre-

Newsmen gobbled up such scenes, just as they swallowed Harkness' China tales.

sents Zoology Jones as a bit of a lightweight, Tangier Smith was a serious professional in his approach to animal capture. He was also unusually scrupulous in satisfying the requirements and courtesies due the government and local institutions. Investing considerable time and money in the establishment of collecting-camps in western China, he personally trained a staff of hunters and villagers in the Min River valley in the husbandry of wild creatures taken alive—as well as in the taxidermy of specimens that did not survive. He set his trainees to practice endlessly on a readily available local species: rats. The native collectors were paid for their services and in Tangier Smith's absence they continued their work on his behalf, communicating with him through agents about important finds. Tangier Smith himself

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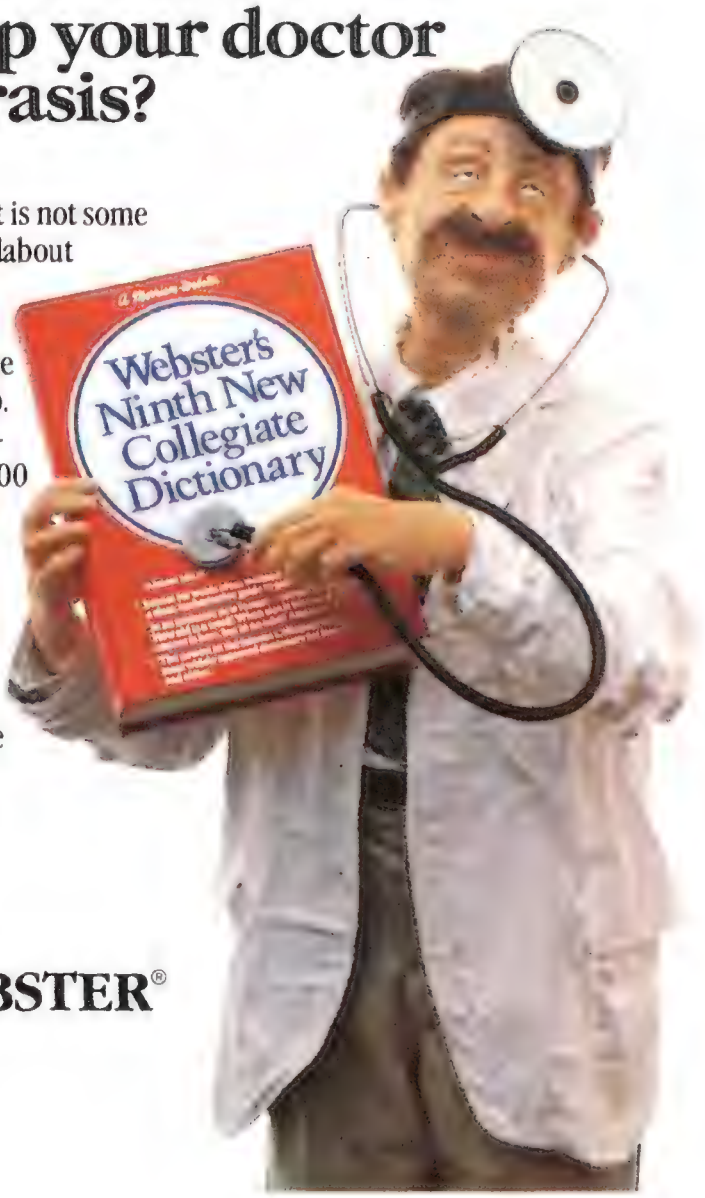

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conducted frequent expeditions to check the camps and pursue leads.

Tangier Smith still had not bagged a panda but, by his own account, he told Ruth Harkness all about his camps and their locations, assuming that she intended to take her husband's place as his partner. Ostensibly, at least, that *was* her original plan. Then she became annoyed by what she saw as his condescension toward her and, to make matters worse, the two were unable to agree on financial terms. Mrs. Harkness resolved to find a panda on her own.

The disassociation was amicable and Tangier Smith wished her good luck. He also urged her, in all fairness, to leave alone the territory he had staked out in the Min Valley, and to try the equally promising region west of Kiating. He later claimed to have received Ruth Harkness' word that "his" preserve would be avoided and, further, that she would not take advantage of any of his confidences.

Harkness, it turned out, was fortunate in securing the professional assistance of a 20-year-old Chinese hunter and guide named Yang Dilin, who was also known as Quentin Young. Young's American-born older brother, Jack, had accompanied Theodore Roosevelt's sons Kermit and Theodore jr. on a 1929 hunting expedition, during which they had succeeded in killing one giant panda. Together, Harkness and Young swiftly laid plans and gathered equipment. Ruth Harkness was able to outfit herself from her late husband's stored gear; Bill Harkness had been a small man, and local tailors adroitly altered his jackets, trousers and woolen undergarments to fit her slight frame.

Disregarding the official notifications and permissions on which her husband's plans had foundered, Harkness and Young set out in late September on the 1,500-mile boat trip on the Yangtze (Chang Jiang), the first leg of their long journey. Accompanying them amidst their gear was a small sealed cardboard box. In it were a few handfuls of ashes—the cremated remains of Bill Harkness.

Quentin Young, Harkness' resourceful guide, allegedly found Su Lin in a tree.

At Chungking (Chongqing), the 300-mile overland trek began, beset with difficulties from native employees and soldiers of Chiang Kai-shek's army. Adding to their worries, according to one account of the journey, was a report that a rival expedition had preceded them by about three weeks. Harkness and Young lost not a moment in making their way. Their trail led not into the hitherto unplumbed region west of Kiating, but directly up Tangier Smith's Min Valley into the mountains. In early November a base camp was established a day's travel from the village of Tsaopo (Zhaopo).

Even if Tangier Smith had known that Ruth Harkness was working the area near his camp in Tsaopo, he was in no shape, physically or financially, to follow her there because he was under strict medical care for tuberculosis. Indeed, several of Harkness' conferences with Tangier Smith had taken place in the hospital. His funds were precariously low, sapped by medical expenses and the cost of

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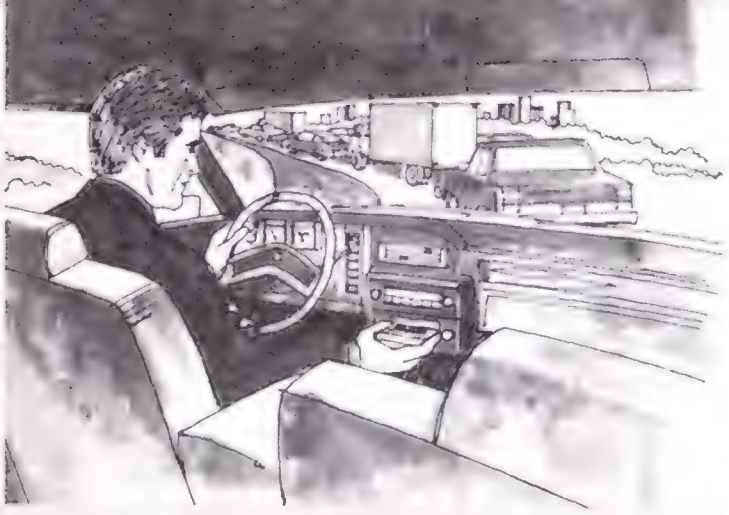

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A 1943 comic book called "Real Heroes" stretched Tangier Smith's exploits a bit, erroneously reporting that he had shipped a baby giant panda to America.

maintaining his camps and trained staff. As it was, believing her to be heading west of Kiating, he knew that the capture of a panda without a support system like his would require uncanny luck.

Ruth Harkness evidently was a very lucky person indeed. On one of their first days in panda territory, she and Quentin Young were prowling the bamboo thickets when Young heard a sound and set out after it. Harkness followed. "Dimly through the waving wet branches," she recalled in her book, "I saw him near a huge rotting tree. I stumbled on blindly brushing the water from my face and eyes. Then I too stopped, frozen in my tracks. From the old dead tree came a baby's whimper. . . . Quentin came toward me and held out his arms. There in the palms of

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his two hands was a squirming baby *bei-shung.*"

Where was the young panda's mother? Possibly it had been frightened off just moments earlier by a trigger-happy hunter who had only recently joined the party. In any event, Harkness and Young hastened back to Chengtu (Chengdu) with their cherished prize in hand. To Harkness' relief, air transportation was available to Shanghai. The box containing Bill Harkness' ashes was left behind.

In Shanghai, Ruth Harkness made no effort to comply with the official requirements that would enable her to take the panda—now named Su Lin—home. But the panda was no mere souvenir; it was a potentially valuable commodity and a national treasure. Chinese officials did not regard Su Lin's unauthorized capture lightly, especially after Harkness was caught trying to spirit the little animal out of the country. With the help of friends, however, she somehow managed to talk her way out of a situation that might have cost her a heavy fine as well as confiscation of Su Lin. She set sail for San Francisco with her precious cargo December 2.

Tangier Smith, wife and young relative inspect a panda destined for Hanover zoo.

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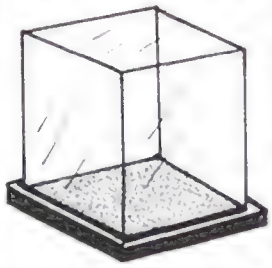

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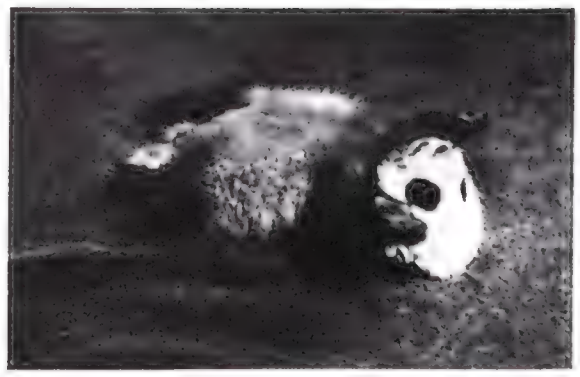

New Yorkers were enchanted by Su Lin's antics on blanket in Harkness apartment.

Amazingly, the entire expedition had taken less than six months.

When the liner *President McKinley* docked in San Francisco from Shanghai on December 18, 1936, even a casual witness would have noticed that a very special passenger was disembarking. A retinue of photographers and reporters surged forward with flashes and cries at the sight of Harkness carrying a wicker basket from which childlike whimpers were occasionally heard.

Thus began an American media celebration of the first magnitude. In hotel rooms kept cold for Su Lin's comfort, newsmen shivered while Mrs. Harkness snuggled into her otter-skin coat and beguiled them with accounts of her adventure that were sprightly, concise and eminently quotable. Reporters seized eagerly on the quaint difficulties involved in playing amah to an infant panda: the formula, the layette and the medical care. Even the sedate *New York Times* blared: "Animal Found by Mrs. Harkness in Wilds of China Eventually Will Weigh 300 Pounds—Has to Be Fed by Bottle."

Meanwhile, Tangier Smith lay seriously ill in Shanghai. Convinced that he had been double-crossed, he did his best to discredit Harkness' story. Between the time her party left Chengtu and returned with the panda, he insisted, she could not possibly have set up a base camp and the lesser scout camps as she claimed. What is more, he said, his sources in-

formed him that she had set up a single temporary camp in the vicinity of Tsaopo, the center of his carefully built collecting network, and there paid cash for a baby panda being kept for him by one of his hunters—perhaps, according to an animal dealer who was stationed in the region at the time, by representing herself as Tangier Smith's colleague.

This view is supported by fresh evidence uncovered several years ago by Atlanta attorney Richard J. Reynolds III, who corresponded with several missionaries and animal dealers. They expressed the conviction that Ruth Harkness, whose worldly demeanor did not impress them, purchased the panda—just as Tangier Smith maintained. Unhappily for him, however, the American press showed little interest in his allegations. The late 1930s were discouraging years in the United States, what with the Depression and rumblings of war in Europe; Ruth Harkness and Su Lin provided the kind of charming diversion the nation hungered for.

There was more, though, to the adoring response of the press and the public than the thrill of a new fad. Su Lin was a superstar with a mes-

At London hospital, ailing Tangier Smith discusses panda rug with a taxidermist.

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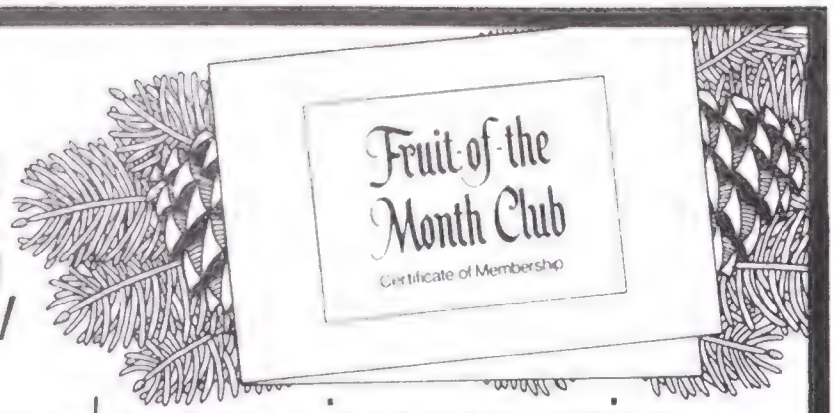

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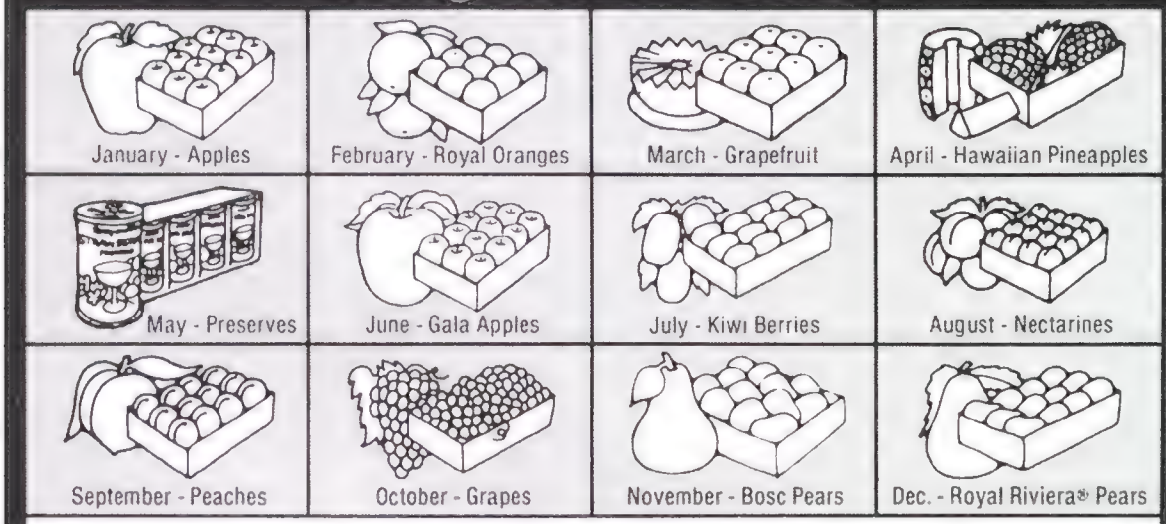

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In charmingly tender scene, Harkness cuddles captive, which died the next year.

sage: the heyday of the big-game hunter with his stuffed trophies was over. It was time, in the words of the famous animal collector Frank Buck, to "bring 'em back alive." Eventually, the public's fascination with Su Lin would translate into growing support for the conservation of all wild creatures.

The turnabout from hunting to protection was epitomized one day by a visit to Harkness' New York apartment by the Roosevelt brothers Kermit and Theodore jr., who had killed their panda only a few years earlier. As Theodore cuddled the young panda on the floor, another guest remarked that Su Lin ought to go to a zoo in Chicago, because if the animal should die, its body could be mounted to join the Roosevelt panda on display at Chicago's Field Museum. Theodore looked up and shot back: "I'd as soon think of mounting my own son as I would this baby."

In 1937, Su Lin did go to Chicago. For the rapidly growing creature, Harkness received $14,000 from the Brookfield Zoo, where Su Lin consistently drew admiring crowds. Then, on April Fool's Day of the following year, the animal died from what news reports termed "a myster-

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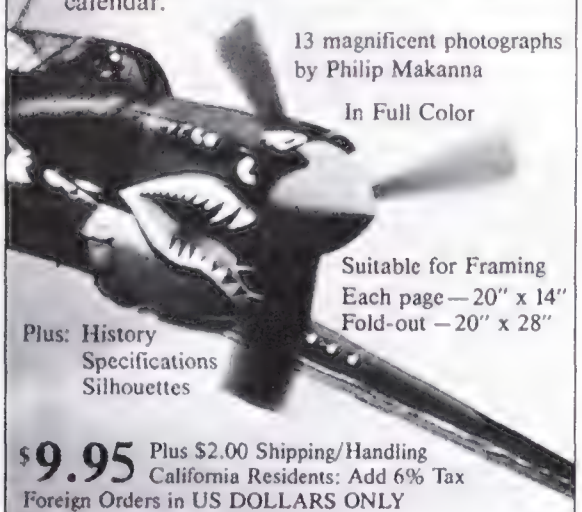

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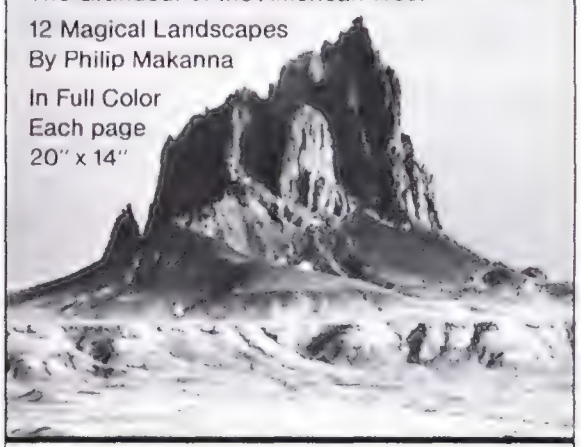

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ious ailment." At first, zoo authorities suspected that an infection might have developed after the panda choked on a twig that scratched its throat, but the theory was not borne out by a post mortem examination. There was a further shock in store for panda lovers when the same examination revealed that the supposed female was actually a male.

Tangier Smith did not long survive Su Lin. After the Harkness debacle, he set out to dazzle the world with a constellation of brilliant captures. Desperately ill, harassed by bandits and balked by the swiftly shifting Chinese political situation, he nevertheless managed to bring five pandas to London, arriving on Christmas Eve of 1938. He was hospitalized almost immediately and died in the United States just seven months later.

As for Ruth Harkness, her panda-chasing days did not end with the acquisition of Su Lin. She made two more trips to China, in 1937 and 1938. On the first, she bolstered her credibility by coming back with yet another panda, this one named Mei-Mei ("Little Sister"), which also ended up at the Brookfield Zoo and which also turned out to be a male. Harkness' last expedition was unsuccessful, and after that she faded into obscurity. When she died in 1947 at the age of 46, she was alone in a Pittsburgh hotel room. The official diagnosis was acute gastroenteritis, but *Time* magazine, in a short obituary marred by several factual errors, cited alcoholism.

Although none of the principal characters in the saga of Su Lin enjoyed a happy ending, that episode was only one chapter in a book that is still being written. Today, the panda remains one of the world's favorite creatures. At zoos in the United States, Great Britain and elsewhere, and in the wilds of China as well, scientists are devising new breeding programs and conservation plans to make sure that the beleaguered species will always be with us. In a way, this commitment began when the redoubtable Ruth McComb Harkness "inherited" her husband Bill's failed expedition.

Were Tangier Smith's damning assertions correct? The world may never know the answer, but this much at least is certain: the lady got her panda, and she did it her way.

Harkness says goodbye to Su Lin at Brookfield Zoo near Chicago before second trip to China. Amazingly, she returned with yet another panda in tow.

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Book reviews

Matisse's *Jazz* VIII shows Icarus with red heart falling through the heavens. Dated 1943, its stars were then seen as exploding shells.

Jazz
Henri Matisse
Introduction by Riva Castleman,
translated by Sophie Hawkes
George Braziller, $90

Weakened by a pair of operations that confined him to bed and wheelchair, and burdened by uncertainties about the fate of his wife and daughter, who were prisoners of the Germans, the aging Henri Matisse would have been excused had he chosen to take a deserved rest on his artistic laurels. Certainly many of his associates assumed he had reached the end of an active career, secure in the position of acknowledged modern master. But Matisse, unable to throw off a lifetime's habit of continual endeavor, took scissors to colored paper, and in the process gave the world a unique art form—the cut-out—that continues to exert an impact on today's artists.

The method—*gouache découpée*, or cut color—consisted of first painting paper with gouache, a kind of opaque watercolor, scissoring out the required shape, and finally applying the forms to each other. It was seen that stencil prints and their inks could reproduce the effect and the colors from the cut-outs. *Jazz*, then, was composed of stencil prints.

Although the idea persists that Matisse turned to the cut-outs only because the more rigorous disciplines of painting and sculpture were forbidden, the artist came to regard them as the "ultimate method" he had sought throughout his career. He had used cut-outs earlier to create working designs for paintings, but there was an enormous difference between that process—building up a surface through addition of scattered pieces—and the one he was now using.

As he wrote in *Jazz*, "Drawing with scissors. To cut to the quick in color reminds me of the direct cutting of sculptors. This book was conceived in the same spirit." For Matisse, the preeminent colorist, the cut-outs provided the opportunity to work purely with color. It required Matisse's years of hand-eye coordination to maintain and physically control the contours. Yet the technique liberated him from the demands of painting and sculpture, enabling him to evoke form and experience through a repertory of colors and shapes.

Matisse created the original *Jazz* for the publisher Tériade, a longtime supporter of the artist's graphic work. Although he used a Matisse cut-out on the cover of

THE CASE OF THE HOLIDAY HOAX

"Bah, humbug," I cried unseasonably as I surveyed the puzzling presents clustered 'round my tree. " 'Tis not the spirit *behind* the gifts that's mystifying me," I mused, "the haunting question is the spirit *in* them."

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Despite the good will of the season, base suspicions filled my mind. "Was there a plot amongst my pals to put a *blended* Scotch beneath my tree? Had some cabal of cronies shared the sterling Single Malt among themselves?"

Then the horror of it struck me. "If my friends were not at fault, had the ancient copper stills worn out? Had Scottish Nationalists seized Banffshire? Was there no more *Glenfiddich* to be had?"

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the first issue of *Verve*, his magazine of art and literature, in December 1937, it was not until 1943, when Tériade visited Matisse's studio to look at the first two images of *Jazz*, that the plan for a volume illustrated by reproductions of cut-outs was adopted.

An original Tériade edition of *Jazz* recently sold for $35,000, automatically restricting it to museums and rich collectors. Happily for devotees of Matisse and fine art books, there is now a splendid reproduction of *Jazz*, one that does full justice to the original designs. Braziller has taken pains to ensure the authenticity of the colors by using 39 inks in this superb reissue: values were matched with the original plates and corroborated against Tériade edition No. 43. The brilliance of the resulting reproductions gives credence to the story that Matisse's doctor ordered him to wear dark glasses as protection against the cut-outs' colors.

No less important are the passages of black script on white—Matisse's hand flourishing his thoughts on life and art between the dash of the images. Although the text was composed in 1946, two years after the designs, and according to Matisse bears no relation to the cut-outs, it is difficult to read *Jazz* without joining the two media on a spiritual as well as physical level. The book is the cut-to-the-essence autobiographical summa of a master artist close to the end of his life. The images, drawn from the circus, the music hall, folklore and travel, at first seem distinct from the narrative, but psychological and symbolic threads weave the verbal and visual together.

Jazz is an unsubdued record of a lifetime's conscious exploration of art as the visual equivalent for experience, a supremely humane arrangement—with turbulent islands of color separated by calm stretches where the eye and mind can rest and contemplate. In *Jazz*, Matisse freed himself from the past, the habitual and the expected, at the same time affirming art, love and life in the face of war and death. We owe Braziller a debt of gratitude for this restaging of Matisse's ebullient masterpiece.

Lee Fleming
Washington correspondent, *ARTnews;*
art review editor, *Washington Review*

George Grosz: An Autobiography
Translated by Nora Hodges
Macmillan, $19.95; Limited Edition, $400

Many people, on becoming acquainted with the paintings and drawings of George Grosz, have automatically mistranslated his family name. There is indeed an appropriately large amount of grossness represented in his work: fat German burghers swilling down beer in Berlin cafés; inflated whores; Nazis engaged in their cruel and disgusting assaults on humanity, but doing so in total sloppiness, brown shirts blousing out of too-tight belts or simply hanging down, brown neckties as off-center as the minds above them.

The missed point was that all this grossness was created with great delicacy and precision. There was never anything really accidental in Grosz's work; even when he created surfaces that looked accidental, as he did for some years in America, all his accidents were planned.

His autobiography shares those qualities. The things that are going on—in his native Pomerania, in Berlin both before

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and after World War I, in New York and on Cape Cod—all have their aspects of grossness, but the telling is precise and dispassionate. As in his art, Grosz in his writing was blessed with an eyewitness memory. As in his art, too, things that ought to be funny considered in themselves rarely come out that way because of the sheer weight of that delicately depicted grossness.

For example, as a boy in Pomerania, Grosz was profoundly affected by American dime novels and cowboy-and-Indian paperbacks. (When he first read *The Last of the Mohicans*, borrowed from a friend, he copied out the whole book by hand to have it with him always.) Playing at American adventure, he crept up on the lighted window of his friend's house, only to find not the friend but the friend's aunt in the process of disrobing. From violence to sex in the flick of an eye, how very Grosz!

That note of voyeurism remained in most of his pictures of sexual encounters and is responsible for a good deal of the interest in the book. The publishers of this new edition quote Edmund Wilson in 1947 on the original English version: "I have not yet read anything else which has made me feel to what degree life in Germany became intolerable during the years after the Treaty of Versailles." He might, one would think, have tried *Mein Kampf*, but here is Grosz returning the compliment: "Edmund Wilson . . . like all fat people he looked most impressive viewed from below, like the anonymous fat gentleman . . . attributed to Velázquez. My other image of him is on a bicycle, looking like a character straight out of Dickens." And here is the German artist's last judgment on perhaps the most articulate American critic of this century: "Wilson is more a lobster person than a fish person: you have to use a nutcracker to get to the meat."

Dada revisited: Grosz is seated before his *Pillars of Society* in Berlin in 1959.

One of the most telling stories in several ways is his only encounter with Salvador Dali. Julian Levi, Dali's American dealer, phoned to ask if the visiting master could sit in on a Grosz life class at his studio. He could. He did. He sat close to the model, said nothing, never looked up and afterwards took Grosz to the nearby Russian Tea Room to meet his wife, Gala, where the conversation died from Grosz's lack of French. Dali had made a drawing of the model's foot in pencil that looked to Grosz like silverpoint; the drawing

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ended up in New York's Museum of Modern Art.

Nora Hodges perfectly conveys the artist's pork-and-potatoes prose and there are 100 Grosz drawings and paintings reproduced.

Frank Getlein
Critic and author

Beyond the Wild Wood
Peter Green
Facts on File, $17.95

"And beyond the Wild Wood again?" he asked . . . "Beyond the Wild Wood comes the Wide World," said the Rat. . . . I've never been there, and I'm never going, nor you either, if you've got any sense at all. Don't ever refer to it again, please."
The Wind in the Willows

In *Beyond the Wild Wood*, Peter Green, heedless of Rat's fearful admonition, pushes beyond the river and the Wild Wood into the complex, often contradictory inner world of Kenneth Grahame. Author of *The Golden Age*, *Dream Days*, and the classic *The Wind in the Willows*, Grahame held one of the most prestigious positions in the Bank of England; yet his books extol a world of children and animals who inhabit a realm of golden innocence. Though Grahame's prose is threaded with elegiac passages mourning the demise of rural England, he nonetheless served the bank that funded the railroad companies that ravaged much of England's green and pleasant land. So respectable was Grahame's public mask that one of his bank colleagues purchased *The Golden Age* thinking it was a treatise on financial matters.

Grahame, 60, lived quietly on Berkshire Downs, "heart of King Alfred's Country."

Was Grahame, then, a banker by day and an iconoclast by night? He is not so easily categorized, Green shows us. Even after he became a noted author, Grahame balked at pursuing literature as an occupation. While rebelling against the conventions of his society, he also felt a need to conform to those strictures.

From Green's book, an abridgment of his earlier 1959 biography, Grahame emerges as "far from being simple," a man who is "not in the normal sense of the word a children's writer at all." A Wordsworthian lover of nature in an antiromantic age, Grahame could foresee no hope in technology, only a wasteland of ravaged country. Repelled by society, Grahame searched for an untainted

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city where innocence and camaraderie reigned supreme.

Darwin's *The Origin of Species* and John Stuart Mill's *On Liberty* were published in the year of Grahame's birth, 1859, the year which Green sees as "a watershed dividing the old era from the new." Grahame knew enough of the past to regret its death; as a banker, however, he was also entrenched in the present. His life was seldom happy. After his mother's death when he was five, Grahame and his two siblings were carted off by their distraught father to be cared for by their maternal grandmother, who lived in Cookham Dene, in Berkshire. (Except for a brief interval, Grahame was not to see his father again until the latter's death—20 years later—in Paris.)

Cookham Dene fostered Grahame's love of solitude, his penchant for taking quiet walks in the countryside and along the riverbank. Green's account of British landscapes and the book's many lavish photographs (both color and black-and-white) offer some insight into Grahame's growth as a writer and into the childhood experiences that shaped his imagination.

Kenneth lived within his imagination with a child's intensity and wonder, formed a realm where "nobody who matters is married, or needs to work and where the summum bonum is loyalty, with creature comforts a close second, an apologia in fact for the country bachelor's life."

Unfortunately, Green writes, Grahame did not remain a bachelor. Had he "gone to his grave a gentle, fantastic bachelor (like Lear, Carroll, and Hans Andersen)," he probably would have been happier. But Grahame made the mistake of marrying Elspeth Thomson, described by contemporaries as a "superficial and twilight woman," given to "childish sentimentalism." Their only child, Alastair, was sickly, physically handicapped and intellectually limited. The child was coddled and spoiled by his mother. In his second year at Oxford, Alastair apparently ended his short, unhappy life by lying across a railroad track.

Green's book is a joy in every way a literary biography should be. He traces the events of Grahame's life with meticulous accuracy and with what appears to be unerring discernment and sympathy. Backgrounds, origins of plots and characters, expert analyses of the stories—these Green provides with an intelligence and depth and in a style that is a delight to read.

The climax of Green's book is the two chapters on *The Wind in the Willows*. Begun as a nursery story told to Alastair, the tale of Mole, Rat, Badger and Toad gradually assumed a life of its own. Grahame's love of the countryside and of the river, his hatred for modern technology, his fear of its growing dominance, his search for a golden world of innocence—all these elements coalesce in this one great book. *Wind* was the last work of any substance that Grahame produced, his life's magnum opus, the epitome of his art.

Grahame spent his final years in solitude, away from the haunts of men; he and Elspeth became isolated, eccentric figures in a distant landscape. In July 1932 Grahame died of a cerebral hemorrhage, finally happy, it seems, in the rural solitude near his beloved Thames. Few who read Grahame's work, particularly *The Wind in the Willows*, can possibly guess at "the personal tragedy it repre-

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sents" and at the unhappy circumstances of its author's life. Yet, concludes Green, posterity may well judge that "in the end, Kenneth Grahame found his Golden City without knowing it."

Paul Piazza
Chairman of the English Department
St. Albans School for Boys,
Washington, D.C.

Third Person Rural: Further Essays of a Sometime Farmer
Noel Perrin
David R. Godine, $13.95

Having completed his third collection of personal reflections on country life, Noel Perrin faces a thorny problem. So does his publisher, David Godine, who conceived the title *First Person Rural* for collection number one, five years ago. Having exhausted the language's persons, singular, what to call Perrin's next book? *First Person Plural Rural*? Hardly.

Sadly, Perrin has chosen to resolve this minor dilemma in the worst possible way; he vows this will be the last of the series. All the more reason, then, why readers should gather these rosebuds, and assorted wild flowers, while we may.

Perrin may be setting aside one craft he has mastered, but he has no intention of abandoning the country life he adopted, and began writing about, more than 20 years ago, when he moved from New York City to the tiny hamlet of Thetford Center, Vermont. That was a journey of just a few hundred miles, but light-years in life-style. Perrin took a decade to make the transition from self-confessed "play-farmer" to "part-time real farmer." In his less earthbound current moments, Perrin is a Dartmouth English professor. He is also the author of nine books, two as far afield from Thetford life as a study of Japan during the period 1543 to 1879 and a history of literary bowdlerization. Perrin is as at home in the groves of academe as in his orchard.

Clearly, this is a man for all seasons. In Vermont he has found six. Add pre-primaveral "unlocking"—thawing—and postautumnal "locking"—freezing—to the customary four. The flow of all six figure heavily in these 16 essays, or 27 if you view the shimmering dozen of "A Country Calendar" as 12 separate jewels.

Perrin's "Book of Days" within a book discriminates between January, the month of "supreme snow" and "blue

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shadows," and December, just "cold and darkness," and finds cause to celebrate the awful climate of both. He may prefer to recall, with us, his "annual shave" of mowing and haying in June, "drunk with delight at how well it looks." Or July, when Vermont is "a settled and permanent green," or September's "winy air."

But none of these last, least of all the glories of fall foliage, could exist without the counterweight of winter, and Perrin would have it no other way. The challenge of fashioning a life under the domination of such a cruel and fickle master drives his creative engines, much like the hitchhiker from St. Thomas he once picked up who was "tired of one god-damned perfect day after another" in his native land.

There are plenty of useful cautions here for the would-be or armchair countryman. Like "a Jehovah's Witness who has strayed into an Episcopal picnic," Perrin "*will* preach." But there are none of the "how-to-be-a-farmer pieces" as Perrin described some of his *First Person Rural* essays.

Rather, he preaches convincingly about the evils of usurious, development-forcing land taxation that brings nearer the day when we will have "maximally exploited our whole country." And in the guise of "a two-year-old Hereford steer living in Vermont" named Michel du Bos, he lows not for vegetarianism but an end to cruel feedlot life. Most eloquently of all, he reissues a 20-year-old plea for an end to the arms race that threatens existence, including that of the farms he holds dear.

But Perrin is too skillful a stylist, too sensitive a soul (*he* held the lambs, his wife pulled out the porcupine quills), to harangue. Rather, he takes us gently by the hand and walks us through the true country, and that enhanced by his romantic imagination, with apt reference to Frost, the monastery of Mount Athos and McDonald's French fries.

Perrin may be a sometime farmer, but he is a constant student and teacher, a keen observer and a delightful moralist. Some backwoods types boast how you can't take the country out of them. I'm more comforted to know that you can put it so surely into the hands and hearts of folks like Noel Perrin.

Don Lessem
New England naturalist and writer

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Society Expeditions

Additional reading

Points of origin (p. 40)

Stilts, Somersaults and Headstands: Game Poems Based on a Painting by Peter Brueghel by Kathleen Fraser, Atheneum, 1968

Common cold (p. 46)

Coping with the Common Cold by Wendy Murphy, Time-Life Books, 1981

"Rhinovirus Transmission: One if by Air, Two if by Hand" by Jack M. Gwaltney jr. and J. Owen Hendley, *American Journal of Epidemiology*, May 1978

"Rhinoviruses" by Elliot C. Dick and P. Joan Chesney, *Textbook of Pediatric Infectious Diseases*, W. B. Saunders, 1981

Vitamin C, the Common Cold and the Flu by Linus Pauling, Berkley Books, 1981

In Pursuit of the Common Cold by Sir Christopher Andrewes, William Heinemann Medical Books (London), 1973

"Stalking the Common Cold" by Garrett Epps, *New York Times Magazine*, November 14, 1982

Orient Express (p. 58)

Luxury Trains: From the Orient Express to the TGV by George Behrend, Vendome Press, 1982

Grand European Expresses: The Story of the Wagons-Lits by George Behrend, Allen & Unwin, 1962

Venice Simplon-Orient-Express: The Return of the World's Most Celebrated Train by Shirley Sherwood, Weidenfeld & Nicolson (London), 1983

Lost Pleasures of the Great Trains by Martin Page, Weidenfeld & Nicolson, 1975

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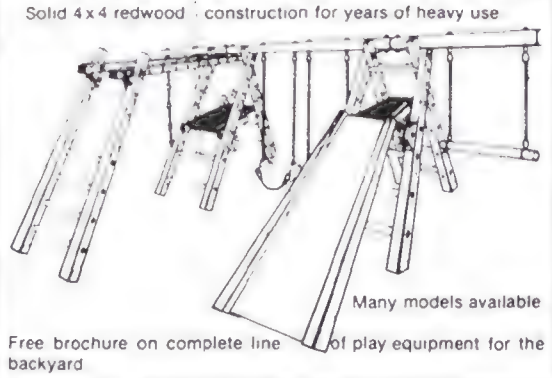

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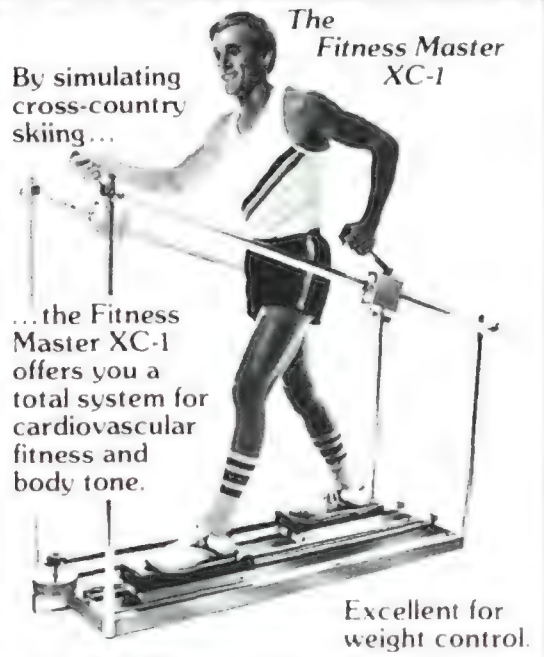
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California condor (p. 72)

The California Condor by Carl B. Koford, Dover, 1966

"Last Days of the Condor?" by Faith McNulty, *Audubon Magazine*, March and May 1978

"To Save the Condor" by Stanley A. Temple, *The Living Bird Quarterly*, Winter 1983

"Death of a Condor" by Robert Cahn, *Audubon Magazine*, September 1980

Chelsea Hotel (p. 94)

Chelsea Hotel, photographs by Claudio Edinger, introduction by Pete Hamill, Abbeville Press (New York), 1983

Turn West on 23rd: a Toast to New York's Old Chelsea by Robert Baral, Fleet Publishing Corp. (New York), 1965

"Where Home Is Where It Is" by Richard R. Lingeman, *New York Times Book Review*, December 24, 1967

"Crane, Masters, Wolfe, etc. Slept Here" by Elaine Dundy, *Esquire*, October 1964

Fractals (p. 110)

The Fractal Geometry of Nature by Benoit Mandelbrot, W. H. Freeman, 1982

"Fractals and the Geometry of Nature" by Benoit Mandelbrot, *1981 Yearbook of Science and the Future*, Encyclopaedia Britannica

"Mathematical Games" by Martin Gardner, *Scientific American*, December 1976 and April 1978

"Metamagical Themas" by Douglas R. Hofstadter, *Scientific American*, November 1981

Ranch (p. 134)

Ranch: *Alan Wood* (exhibition catalog), Charles H. Scott Gallery, Emily Carr College of Art (Vancouver, British Columbia), 1981

Alan Wood: A Survey (exhibition catalog), Art Gallery of Greater Victoria (Victoria, British Columbia), 1982

"Architectonics and the Wild West" by Joan Lowndes, *Vanguard*, Summer 1981

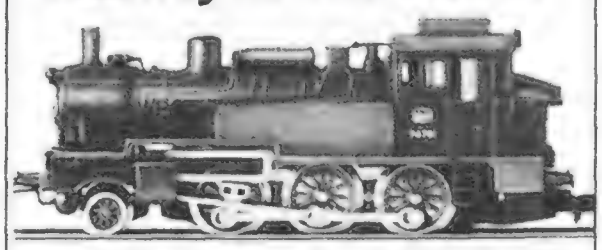
Pandas (p. 145)

The Lady and The Panda by Ruth Harkness, Carrick & Evans (New York), 1938

Men and Pandas by Ramona and Desmond Morris, McGraw-Hill, 1966

Trailing the Giant Panda by Theodore Roosevelt and Kermit Roosevelt, Scribner's, 1929

The Smallest Electric Railway In The World.



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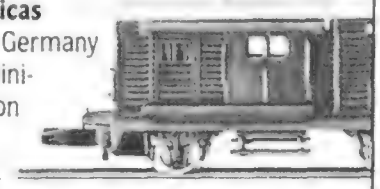

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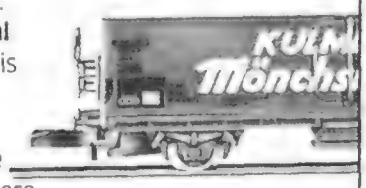

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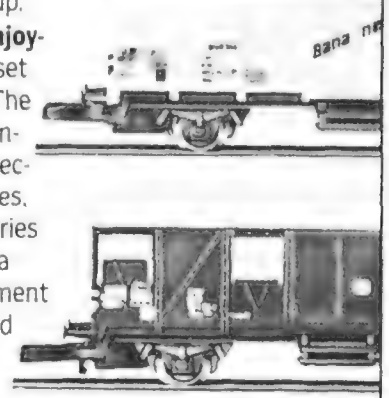

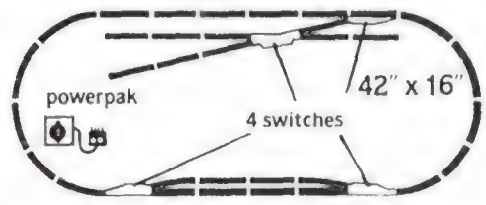

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Smithsonian highlights

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On December 25—Christmas Day—all Smithsonian museums will be closed.

Special December exhibits and events

National Air and Space Museum
The Oldest Dream: A Celebration of Flight (through January 15, 1984).

Observers of an early balloon flight are portrayed in new exhibit at NASM.

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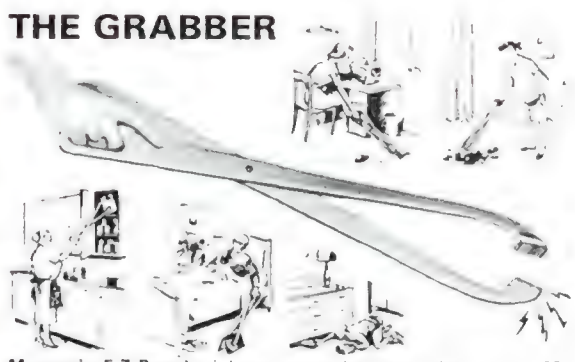

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National Museum of American History
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Holiday Celebration (December 26-31) Crafts, music, food, storytelling—all emphasizing "Our Ethnic Heritage."

National Museum of Natural History
The Precious Legacy: Judaic Treasures from the Czechoslovak State Collections (through January 1, 1984) More than 350 religious and secular objects assembled by the Nazis in Prague during World War II.
Ban Chiang: Discovery of a Lost Bronze Age (through January 31, 1984) Revolutionary archaeological finds from a site in Thailand.
Holidays and History: Jewish Ceremonial Objects Through the Ages (December 2; noon; Baird Auditorium) Slide lecture by Linda Altshuler.
Chang: A Drama of the Wilderness (December 30; noon; Baird Auditorium) A 1927 silent film about wild animals threatening a small Thai community.

Cooper-Hewitt Museum (New York)
The Art of the European Goldsmith: Silver from the Schroder Collection (through January 22, 1984) Pieces from the Renaissance and Mannerist periods.
The Amsterdam School: Dutch Expressionist Architecture, 1915-1930 (through February 5, 1984).

National Museum of American Art
Sawtooths and Other Ranges of Imagination: Contemporary Art from Idaho (December 1-February 20, 1984) Works of 28 artists.
The Capital Image: Painters in Washington, 1800-1915 (through January 22, 1984) Major show includes works by Gilbert Stuart, Charles Bird King, many others.

Renwick Gallery
Contemporary Australian Ceramics (December 16-February 26, 1984) Works blend Asian and European influence.
Russel Wright: American Designer (through March 4, 1984) Modern style in furniture, glassware, fabrics, ceramics.

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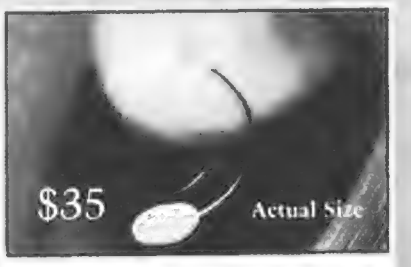

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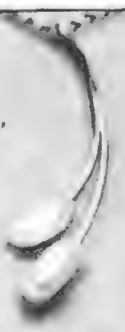

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Lafayette Square, 1963-1983: Architecture, Preservation and the Presidency (through January 15, 1984).

National Museum of African Art
African Islam (through April 22, 1984) Major exhibit includes 115 textiles, charms, amulets, Koranic boards, masks, horse trappings and puppets.

Hirshhorn Museum & Sculpture Garden
Dreams and Nightmares: Utopian Vision in Modern Art (December 8-February 12, 1984) More than 100 works reveal the extremes of 20th-century artists' visions.

National Portrait Gallery
Masterpieces from Versailles: Three Centuries of French Portraiture (through January 8, 1984) Special loan exhibition from the Museum of the Chateau of Versailles includes works by David and Ingres.
Portraits in Motion: William Windom portrays Ernie Pyle (December 2, 7:30 P.M.; December 3, 1:30 P.M.).

Anacostia Neighborhood Museum
Through Their Eyes: The Art of Lou and Di Stovall (through March 4, 1984) See "Highlights continued."

Freer Gallery of Art
Studies in Connoisseurship, 1923-1983 (through February 29, 1984) How scholarship has increased the knowledge about 60 objects in the museum's collections.

Smithsonian events

For price information and tickets to Resident Associate events, call 357-3030:
Snow Leopard (December 14; 8 P.M.) Slide lecture by Rodney Jackson, who tracks this predator using radio-tracers.
Dinosaur Provincial Park's Fossil Legacy (December 19; 6 P.M.) Slide-illustrated lecture by Alberta culture historian David McIntyre on the dinosaur, crocodile, shark and winged-reptile fossils of this UNESCO World Heritage Site.
The Road After 1984: Eighth International Smithsonian Symposium (December 7-10) Sessions open to RAP members include "Computers and Human Learning" and "Can the Mass Media Control Our Thoughts?" Call 357-2328 for more information.
First Contact (December 13; 8 P.M.) First Washington showing of Australian documentary about the discovery in 1930s of tribal people in New Guinea.
Space Shuttle Flight Films (December 19; 8 P.M.) Footage from three missions, with NASM curator Gregory Kennedy.

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(signed) Carey O. Randall
General Manager

Regional Events Program

Associates in New Jersey will have the opportunity to meet Smithsonian curators and scientists when the Regional Events Program travels to Hopewell, Princeton and Trenton, January 4-9. The program, which features lectures and seminars on volcanology, nature photography, World War II aviation and South American rain forests, acquaints Associates living outside Washington, D.C., with current research. Associates living in all three cities should have received invitations by now. For further information, write: Regional Events Program, A&I 1208, Smithsonian Institution, Washington, D.C. 20560.

Smithsonian on the air

Radio Smithsonian: Features on this weekly half-hour program include a new look at Winston Churchill as an artist; the story of history's greatest meteor shower; and a tour of Jewish art treasures preserved during the Holocaust.
Smithsonian Galaxy: Short radio features explore history, science, art.
Here at the Smithsonian: Two-minute features present Smithsonian activities.

To find out what stations in your area carry these radio and TV programs, write: Office of Telecommunications, MNH Room C222B, Washington, D.C. 20560.

Exhibition catalogs

Catalogs available at this time by mail-order are:
The Precious Legacy: Judaic Treasures from the Czechoslovak State Collection. (Please note revised prices: $17.50 paperback; $40 cloth.)
Dreams and Nightmares: Utopian Visions in Modern Art ($10; paperback with 25 color illustrations). Exhibition at HM&SG.
Contemporary Australian Ceramics ($9.95; paperback). Exhibition at Renwick Gallery.
Masterpieces from Versailles: Three Centuries of French Portraiture ($10; paperback). Exhibition at NPG.

To order, send check or money order to: Museum Shops, Box 44083, Washington, D.C. 20026-0083. Include either 15 percent of total purchase or a minimum of $1.75 to cover postage and handling.

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The Contributing Membership Program supports the Smithsonian's research and educational activities through annual

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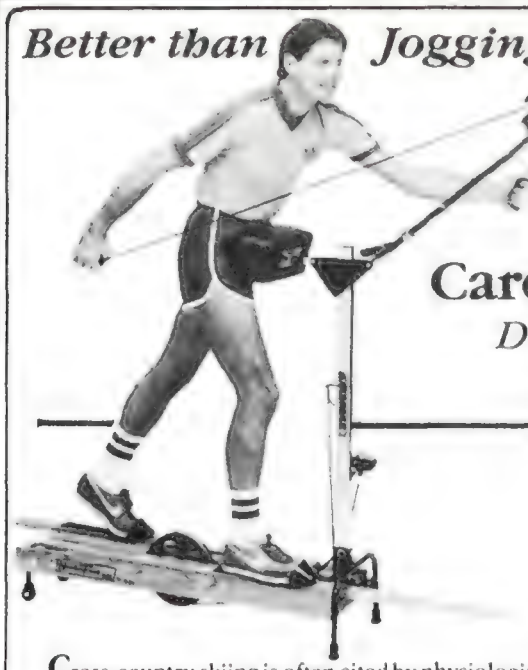

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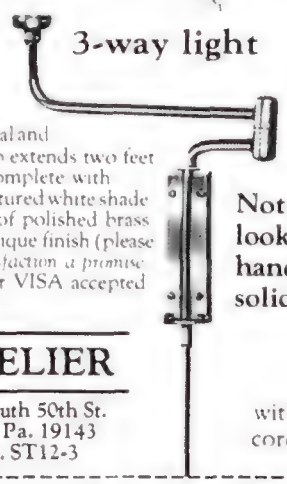

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Society Expeditions

membership contributions in five categories: Supporting, $50; Donor, $100; Sponsoring, $250; Sustaining, $500; and Patron, $1,000. (Contributions are tax-deductible within legal limits.) In addition to all benefits of Smithsonian Associates, Contributing Members attend elegant evening previews of museum exhibitions; are given behind-the-scenes museum tours; and receive a special edition of a richly illustrated Smithsonian publication and the Smithsonian Engagement Calendar. For further information, please contact the Contributing Membership Program, A&I 1190A, Smithsonian Institution, Washington, D.C. 20560.

Smithsonian Institution Traveling Exhibition Service

SITES circulates exhibitions to hundreds of cities outside Washington. To sponsor a show in your community, write: SITES, Smithsonian, Washington, D.C. 20560. Here are some December exhibitions:
Birmingham, Alabama (December 24-January 15, 1984) *A Collector's Eye: The Olga Hirshhorn Collection*, Visual Arts Gallery.
Miami, Florida (December 3-January 8, 1984) *Kings, Heroes, and Nomads: Pictorial Rugs from the Tribes and Villages of Iran*, Musée du Panthéon National Haitien.
Baton Rouge (December 10-January 8, 1984) *Artists and Space Flight*, Louisiana Arts & Science Center.
Rockland, Maine (December 3-January 1, 1984) *The Vanishing Race and Other Illusions: A New Look at the Work of Edward Curtis*, The Maine Humanities Council.
Wausau, Wisconsin (November 26-December 25) *Good as Gold: Alternative Materials in American Jewelry*, Leigh Yawkey Woodson Art Museum.

Membership benefits

A pre-visit packet, filled with helpful information for Associates planning to visit the Smithsonian, is free; send postcard request or phone Associates' Reception Center, Smithsonian Institution, Washington, D.C. 20560 (202) 357-2700; for hearing impaired, TDD (202) 357-1729. Allow two weeks for receipt.

Begin your visit at the Associates' Reception Desk in the castle, where a cordial welcome and special printed materials await you, 10 A.M. to 4 P.M. daily. Other benefits: a half-hour slide/lecture orientation to the 13 museums; dining in The Court; discounts in most Smithsonian shops.

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Highlights continued

Double happiness at Anacostia

Two artists, married since 1971, work in different media and styles—but express the same joy in life

In the late 1960s, when the art scene was filled with experimentation, some of America's top artists—among them, Sam Gilliam, Gene Davis, Alexander Calder and Jacob Kainen—flocked to a printmaking studio on M Street in Washington, D.C. They went to explore the techniques of silkscreening under the masterful eye of proprietor Lou Stovall, himself a printmaker of flawless precision. At about that same time, Lou met Corcoran School of Art student Di Bagley at a gallery, and they were wed in 1971. Since then, the two have worked side-by-side in their busy workshop.

Lou and Di Stovall have managed to retain their artistic independence. Lou interprets nature as a manifestation of the female form in many of his lyrical silkscreens and drawings, while Di prefers to paint on paper with acrylic, outlining the exuberant miniature forms with ink to further define them.

"Through Their Eyes: The Art of Lou and Di Stovall," on view at the Anacostia Neighborhood Museum through March 4, 1984, presents 84 works by this vibrant couple—the perfect exhibit to enjoy in this month of celebrations.

Constance Bond

Tap Dancing by Di Stovall is bow to Radio City Music Hall Rockettes.

In *Soupscape*, 1975, Di Stovall plays with the familiar imagery of Pop Art.

Lou Stovall's *For Ascending Larks* has 45 individually silkscreened colors.

Acrylic paintings by Di Stovall are brightly patterned *Off the Beaten Track*, above, *Rainbow Teascape*, left.

Lou Stovall's poster honors program to keep Shakespeare alive in schools.

Join with other Smithsonian Associates

Travel and Study, at Home, Abroad . . . and

As a Smithsonian Associate, you can enjoy the benefit of culturally oriented experiences under the guidance of museum curators or visiting scholars. Your lively curiosity and broad interests have resulted in a comprehensive study program to meet many tastes and budgets.

Domestic Study Tours

Christmas at the Smithsonian December 9-11: Gala tree-trimming party plus special tours of new Museum Support Center, Ban Chiang exhibit and Air & Space Museum's "200 Years of Flight."

Yellowstone in Snow February 17-26: Ski across landscapes blanketed in stillness for a close view of wintering elk and steaming geysers.

Baja Whale Watch February 19-27: Board the *Royal Polaris* for an unforgettable journey to Baja California to watch the migration of the gray whale.

Savannah and Charleston March 22-29 or April 8-15: Experience the gracious living of the past in charming seaports with their elegant townhouses, fine antiques and cobblestone streets.

Okefenokee April 7-14: Canoe through this beautiful wildlife refuge with moss-draped cypress trees and an array of springtime flowers and birds.

Crafts Today April 26-29: "Forum on 20th-Century American Glass" features collections, studio tours and lectures on glass from Tiffany to contemporary.

The Civil War in Virginia May 3-11: From Richmond to the Shenandoahs, visit major battle sites of the eastern campaigns.

Arches and Canyonlands National Parks May 10-17 or September 20-27: Hike through Utah's incredible landscapes on this sequel to our Bryce and Zion trip.

California Dream May 11-19: Travel from Los Angeles to San Francisco focusing on writers who shaped the state's image from 1920 to 1960.

Kentucky May 17-25: Visit historic homes in Louisville, Lexington and Shakertown plus renowned craft centers in Berea.

Crow Canyon Archaeology May 20-27 or August 5-12: Join archaeologists near Mesa Verde, Colorado, for a dig at an ancient Indian site.

Alaska June 29-July 13: Cruise the Inside Passage and enjoy five days at Camp Denali, a wilderness retreat in Mt. McKinley's shadow.

Delta Queen October 18-26: Steam up the Mississippi from New Orleans to Memphis with Dixieland jazz and special lectures.

Coming in June: Connecticut Antiques and Treasure Houses of Maryland's Eastern Shore.

Washington "Anytime Weekend": Brighten your winter with an economical weekend visit to your choice of Smithsonian museums. Package includes hotel, meals, sightseeing and exclusive tour of Smithsonian castle. Reservation and payment must be received at least ten days prior to arrival.

Foreign Study Tours

These tours range in size from small group experiences to charter adventures and vary in price from low cost to deluxe, depending on the type of travel, destination and length of trip:

People's Republic of China, 1984: Retrace the Silk Route, climb China's sacred peaks, cruise the Grand Canal or Yangtze River, explore back roads, study decorative arts and antiques, or journey by train through the countryside. Exclusive tours are led by a Sinologist and include intensive pre-tour briefing.

Zapotec and Mayan Mexico February 9-21 or March 8-20: An adventure tour with a Mesoamerican specialist. Discover the rich archaeology and colonial cities of Oaxaca, San Cristóbal de las Casas and Campeche, traveling from highland to rain forest to the Yucatán peninsula.

Morocco March 8-24: Explore the vibrant imperial cities of Marrakesh, Fez, Rabat, and Meknès and the powerful beauty of historic desert and mountain villages.

Ancient Civilizations March 11-31: A unique study voyage aboard the *Argonaut* traces the development of Western civilization. Begin in Cairo, then travel to historic sites along the Nile, in Jordan and Israel, before stopping in Santorini, Crete and Athens.

Rouen and the Norman Countryside March 31-April 15 or October 6-21: The ancient city of Rouen, capital of lush Normandy, provides a superb setting for walking tours, museum visits and special excursions nearby, including Norman churches, elegant beach resorts and Monet's Giverny.

Canals and Old Masters April 10-24: Art museums, historic tours and spring flowers highlight four days in Amsterdam. Then sail by riverboat to explore the cobbled streets of medieval Dutch and Belgian port cities, plus Brussels.

London and the English Countryside April 29-May 13: Specialized countryside travel seminars follow an eight-day program of walking tours, theater, lectures and excursions in England's capital city.

Springtime in Greece May 4-19: A full program in Athens is followed by visits to the renowned sites of ancient civilizations when the countryside is a paradise of wild flowers.

History and Romance of the Rhine May 14-29: Following a program in Zurich and Basel, embark on our chartered ship for a seven-day study voyage to the great castles and cathedrals on the Rhine.

Swiss Countryside May 26-June 10 or September 1-16: Explore the majestic, romantic mountain world of Switzerland's Bernese Oberland while residing in Lenk.

Wild Highlands of Scotland May 31-June 18: Based in a castle, observe shy wildlife and the brooding landscapes of loch and moor. Visit the Isle of Skye and meet local residents to learn about this remote and historic region.

Seminar in Florence June 8-24: Study the Florentine Renaissance while living in a 15th-century villa. Take part in lectures, language classes and field trips into the Tuscan countryside.

Coming in June and July: Trans-Siberian Express, Cotswold Countryside and Iceland.

Write National Associates, A&I 1278 Smithsonian Institution, Washington, D.C. 20560 or call (202) 357-2477 for specific tour brochures

in Washington

Selected Studies Seminars

Enjoy the treasures of the Smithsonian in unique, popular programs and special behind-the-scenes tours. Choose from:

Masters of American Painting January 29-February 3: Popular lecturer William Kloss focuses on the celebrated works of the most talented and creative artists. The lavishly illustrated lectures will coincide with the new, magnificent exhibition—"A New World: American Painting from 1760-1910," organized by the Boston Museum of Fine Arts at the invitation of the Musée du Louvre. This unprecedented assembly of fine paintings will be on view in Washington only a very short time before it leaves for Europe, and participants will be able to enjoy a specially arranged tour before the museum opens to the public.

French Impressionist Painting March 4-9: Using slides of the world's great collections, William Kloss discusses the masterpieces of Monet, Degas, Renoir and others. Includes in-depth tours of famous paintings in Washington museums.

Connoisseurship of Rugs April 8-13: Prized rugs from the Textile Museum—the only museum in the West devoted to rugs from virtually every region of the world—are used to illustrate the rich designs and techniques of the major rug traditions. These masterpieces, as well as others from fine museums and private collections, will be analyzed as great works of art and considered in their historical and cultural context. Also includes care and repair of rugs, the antique and semiantique rugs which are collectible today, and a round-table discussion of participants' rugs.

Gardens by Design April 29-May 4: Celebrate spring in the outstanding gardens of the Washington, D.C., area with their profusion of flowering shrubs, trees and plants. Experts focus on the art of planning and designing gardens—whether small or large, public or private—in in-depth lectures and tours of major horticultural sites in and around Washington.

In Tucson, Arizona

The New Astronomies May 6-11; May 13-18: Springtime in Arizona at the Fred Lawrence Whipple Observatory and Kitt Peak National Observatory.

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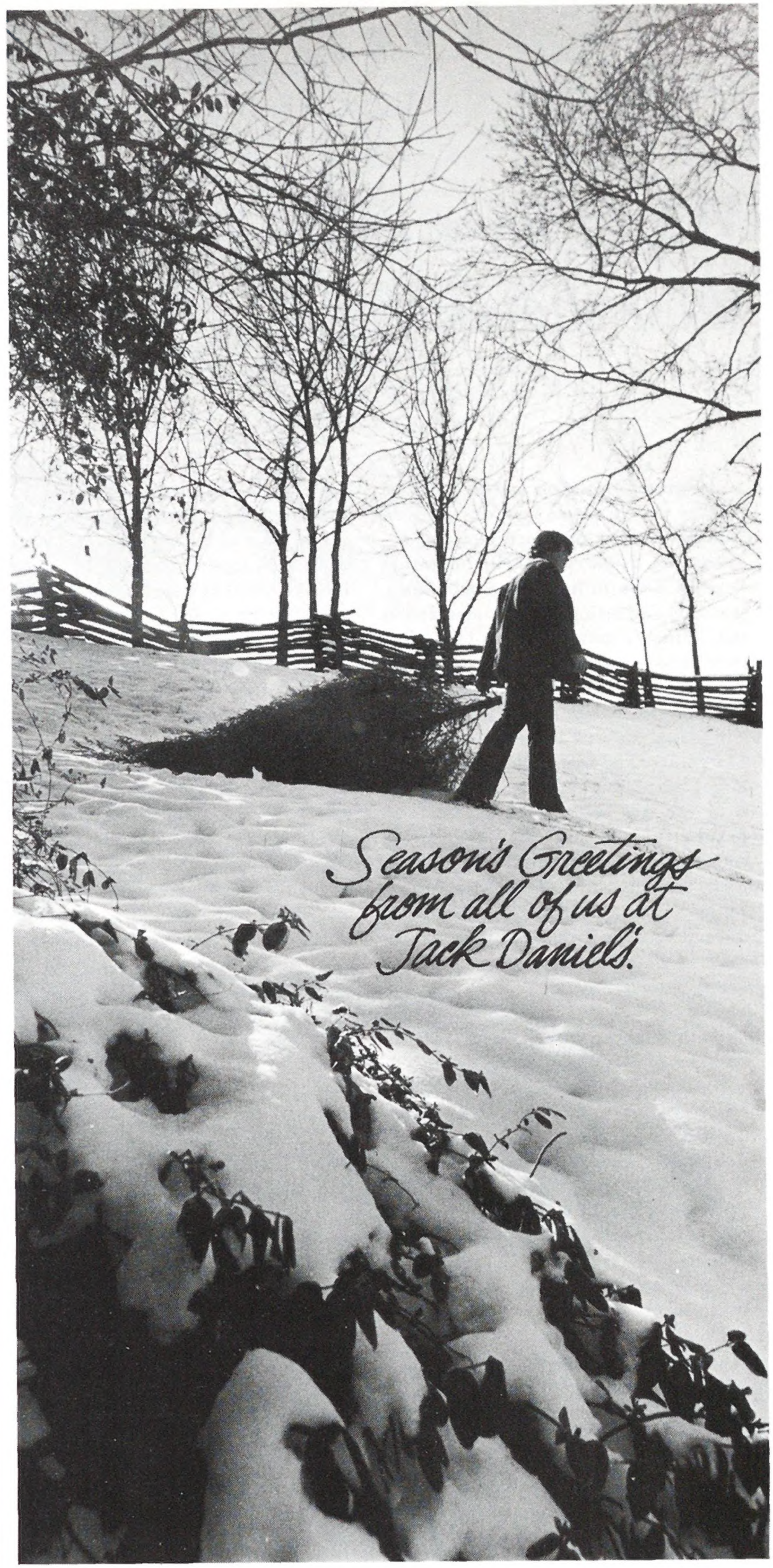
or (202) 357-2475 for seminar brochures.



Jack Daniel Distillery, Lem Motlow, Prop.,
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By John Skow

Where have all those shovels gone?

It has been snowing on and off for three months and it snows now on the New Hampshireman's upturned face and upraised fist as he reviles the uncaring heavens. Snow in itself, even chest deep, is seemly and fitting. But this most recent fall, 16 inches in two days, has buried the New Hampshireman's new shovel, a fine steel-and-hickory excavator, bought only last week to replace a paltry aluminum-and-plastic toy that failed in battle after 15 minutes. The householder was using a large snowblower to tunnel his way to the barn the day before yesterday, and he fetched the new steel shovel when the snowblower mired itself. Then he set it aside, somehow, to feel the snowblower's pulse, or so he recalls things now, and did not retrieve it the next morning because a plugged kitchen stovepipe urgently needed surgery.

Since then it has snowed resolutely, abundantly, more than enough. The trench in which the householder now stands is not really a trench anymore, merely a shallow depression full of powdery white. It is possible to guess fairly accurately the location of the snowblower, which, unless it has been stolen in the night by elves, is that hummock at the end of the snowed-in trench.

The householder is not relying on the snowblower now, though. He has written it off as piffling, suburban, a chronic cold-catcher, not a serious machine. Preparing not just for snow, but for an Ice Age, he has, in fact, purchased a used four-wheel-drive pickup truck with a huge and magnificent yellow, hydraulically operated snowplow. This brutish marvel is suitable for building pyramids of snow to memorialize its owner and indeed has done so. The problem is that in plowing vigorously in a downward direction, the truck's pharaoh half an hour ago pushed a great pile of snow to the top of a vast pyramid begun two months before and enlarged almost daily. The pushing was a dramatic success, with a couple dozen bushels of snow and the plow itself riding up higher than the top of the truck's hood. But then the rig stuck because the pickup got wedged at the bottom of a slick, upward-slanting driveway.

The householder put aside the temptation to let the majestic turning of the seasons melt his truck free (by July 4, say). His wife, with amiable malice, offered to call a tow truck. "No problem," he lied stalwartly. He would simply find his shovel, demolish the pyramid on which the plow was beached, throw a few ashes under the truck's tires and escape while thousands cheered.

Alas, lengthy soundings with a ski pole in the thick snow failed to produce the shovel. This disappointment in itself would not have goaded the New Hampshireman into roaring his fury at the storm (as he thinks briefly and wildly of explaining to his assistant cat, an apprentice barn mouser who regards him with interest from a perch on the bird feeder). The intolerable fact is that he now faces the purchase of the season's *fourth* shovel. The first was lost to a sly November snowfall. Its plastic replacement soon shattered, and the third was now swallowed by the present crevasse. Another still at the hardware store makes four.

Reason for rage, he thinks, as a shaggy brown pony nudges the cat off the bird feeder and begins to eat sunflower seeds. Moodily the householder takes the pony by the forelock and walks it back across the pasture fence, most sections of which are invisible under the snow. The man and the pony are followed at a distance by the pony's colleague, a huge and twitchy white horse who would dearly love to eat sunflower seeds from the bird feeder, but who fears blue jays.

Calmed now by the reasonableness of his beasts, the man speculates that maybe the horse is strong enough to pull the snow truck free. This is idle musing; there is no pulling harness in the barn. The horse is protein-packed but wholly ornamental, like a human teen-ager. But the householder continues to think of the stuck truck. He can feel a memory working its way toward light. Yesterday (was it?) a friend remarked that every pickup in New Hampshire circulates all winter with a ton of snow in its cargo box. Buy ten pickups, the friend joshed. Park them end-to-end in your driveway and you have solved your plowing problem: just drive the stuff away.

Abruptly that vagrant memory comes free! His shovel is not lost in the trench. It is precisely where he put it for safekeeping two days ago, in the snow-filled back of the pickup. Splendid certainty seizes him as he climbs aboard and kicks through his movable drift. A shovel flips to the surface—not recently lost but long lost, the vanished shovel of last November! A moment's heaving with it—life does have its finer moments—brings the new shovel to light. With deep appreciation of his own worth, the householder disembarks and begins to excavate his snowplow. The crystalline "Winter" movement of Vivaldi's *Four Seasons* concerto begins to take form in his mind. It is snowing hard now, and all the marks of his turmoil, the tire tracks of arrogance, the footprints of despair, have vanished utterly from sight.

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